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Bringing medicines to *life*

ABPI Vision Paper: UK medicines regulatory policy and global influence in a post-pandemic world

November 2021

Preface

Methodology

This report is the product of a series of interviews and roundtable workshops with members of the Association of the British Pharmaceutical Industry (ABPI), whose views are incorporated within this document. Over the course of three months, ten member interviews were conducted alongside a two-hour workshop on the outlook for life sciences regulatory policy. The content from these workshops is situated within the broader context of life sciences regulatory policy, alongside desk research to understand the competing and aligning priorities of the diverse stakeholders in this space including the Medicines and Healthcare products Regulatory Agency (MHRA), the National Institute for Health and Care Excellence (NICE), and UK Research and Innovation (UKRI). Interviews with key external stakeholders were also conducted to ensure a holistic picture of the priorities and challenges for the life sciences sector.

Acknowledgements

We are grateful to Tom Smith, Stephen Adams, and the wider team at Global Counsel, who acted as technical advisers and supported the development of this report.

Disclaimer

The information contained in this report attributed to government/public sources has been assumed to be reliable, and no representation or undertaking is made or given as to the continued accuracy, completeness or reliability of such information comprised in this report.

Contents

Executive summary and recommendations

The government has been clear in its commitment to ensuring the UK remains a global life sciences superpower.

Recent statements of intent – including the Life Sciences Vision 2021, the health and social care data strategy, and the Medicines and Healthcare products Regulatory Agency (MHRA) delivery plan – all exemplify an overall aim to address the challenges facing the sector while ensuring it remains internationally competitive and influential.

The response to COVID-19 has shown what the sector is capable of. Developing agile and innovative regulatory processes has saved lives and holds much promise for the future. However, delivering on this work has largely relied on extraordinary efforts across the sector, with significant resource redirected in the midst of the pandemic. This, understandably, has come at the expense of other vital activities.

The pandemic, coupled with the UK's exit from the EU and a renewed domestic policy agenda, creates both challenges and opportunities for the UK's regulatory policy strategy, standing as an impetus for the change needed if the UK is to sustain its place as a global life sciences leader.

However, it is vital that the UK does not substantially differentiate its regulatory regime to the point that it diverges from the direction of travel of international regulatory science. Instead, the UK needs to align its strategic approach to that of the MHRA's regulatory peers and identify opportunities for the UK to generate novel, science-driven regulatory approaches that others around the world will want to adopt. The ABPI believes that there are several ways in which the UK can progress towards an internationally competitive regulatory framework. The key elements to achieve this rely on being patient-focused, innovation-focused, and forward-looking.

The UK must also seek to continue being an effective player on the world stage. As the ambition of the Life Sciences Vision outlines, the MHRA is in a position to capitalise on the UK's unique capabilities to help define and set international standards and rules, contributing to the reputational strength of the UK life sciences sector, and supporting the export of UK innovation to major trading partners.

Nonetheless, specific factors are critical for the success as outlined above. To achieve success as an internationally competitive life sciences hub, three key factors are important: having the right resources to enable this vision, being properly funded, and ensuring an open dialogue with all members across the stakeholder landscape.

This paper sets out the perspective of the ABPI on how the UK can move to grasp emerging opportunities for remaining internationally competitive and influencing international regulatory policy, making key recommendations as outlined below. The industry stands ready to partner with government to ensure the success and international recognition of this agenda.

Summary of recommendations

1 An internationally competitive regulatory framework

i. Patient-focused

- The MHRA and industry should support the Patient Safety Commissioner to maximise impact, and an advisory panel is an example of how this could be actioned.
- The MHRA, industry and patient groups should collaborate to ensure that its Patient and Public Engagement Strategy delivers improvements for the regulatory environment through benchmarking against leading national and international regulators.
- In the interest of transparency, the ABPI recommend that the MHRA publish an annual report outlining how patient and public engagement has been embedded in regulatory processes, include the metrics used to measure this engagement, and report on the diversity of clinical trial participation.
- The MHRA is encouraged to work further with international partners, including through the International Conference on Harmonisation (ICH), to lead and operationalise the development of internationally harmonised guidance on measuring patient outcomes and on public and patient engagement in clinical trials and the wider regulatory pathway.

ii. Innovation-focused

- The MHRA could maximise early participation of the Innovative Licensing and Access Pathway (ILAP) by engaging partners in early dialogues for a more cohesive and regulatory access process, as it seeks to further expand the suite of innovative authorisation procedures available. It could also consider creating a horizon scanning mechanism to identify innovative regulatory practices occurring elsewhere.
- Innovation could be better embedded in the new Medicines and Medical Devices Act (MMDA) if the MHRA were to establish dialogues with regulatory peers and prioritise a review of the Advanced Therapy Medicinal Products (ATMPs) and precision medicine regulatory environment, whilst working with industry to identify efficiencies.

iii. Future-focused

- The MHRA can assist industry in their climate change goals for supply chain by developing regulation that responds to new material and data technologies and enables sustainable practices.
- The MHRA should press forward with its planned IT transformation programme and work with NHS Digital, NHSX and other stakeholders to integrate digital approaches to clinical research with the wider health system. This should also include an assessment of its skills requirements for informatics and computational sciences and put in place a plan to fill any skills gaps as a matter of urgency.
- Greater engagement between MHRA, National Institute for Health Research (NIHR), Health Research Authority (HRA) and the devolved administrations would build on current work to develop guidance supporting virtual and decentralised trials, including through the establishment of an early advice service for trials with innovative design or delivery approaches.
- The MHRA can explore working with the Information Commissioner's Office (ICO) and relevant NHS bodies to develop a concise and robust approach to patient consent for clinical research. It could also look to build on current draft guidance to embed real-world evidence (RWE) into regulatory processes.
- A broader and standardised patient consent model could be achieved, should the MHRA work with partners, based on the NIHR BioResource template.

2 Influencing international regulatory policy

i. Trade policy

- Opportunities for identifying new mutual recognition agreements (MRAs) with trading partners should be a priority of the UK's trade agenda, and where needed, expanding current MRAs, for example including mutual recognition of batch testing in the UK-EU MRA.
- The UK should pursue opportunities for regulatory cooperation with key trading partners as part of its trade agenda to secure the position of the MHRA as a gold-standard regulator. The Life Sciences Global Opportunities Board is well positioned to provide the strategic forum for industry-government considerations of the opportunities and risks associated with a closer working relationship with a given trading partner, which can be taken forward by the Life Sciences Trade Advisory Group.
- Trade deals should include a commitment to collaborate and build a working structure to do so, through 1) identifying priority areas for discussion/ collaboration, and 2) including agreement to establish ways of working with industry.

ii. Plurilateral collaborations and bilateral relationships

- Building on the UK's participation in the Access Consortium and Project Orbis, government and industry should work together to identify more opportunities for the UK to deepen the role and scope of the two current schemes. Given existing resource constraints, in the short-term, the primary focus should be dedicated to deepening the role and scope of the two current schemes rather than seeking to lead additional collaborations.
- To deepen relationships with partners of strategic importance, government should prioritise building the infrastructure to support its ambitions for life science regulation. This could include setting up regular regulatory dialogues, establishing permanent liaison offices in strategic markets, facilitating staff exchanges, and/or establishing experts within the relevant UK embassies.

iii. Multilateral forums

- The MHRA should remain an active and strategic member of international forums (ICH, ICMRA, PIC/S), deepening these memberships to advance harmonisation on innovative areas of regulation. Industry would benefit from clear mechanisms which allow input into the issues and direction of travel of MHRA engagement in these discussions.
- UK regulators should seek to be leading voices in World Health Organization (WHO) networks, including through being full and active members of the WHO's Coalition of Interested Parties (CIP) Network for Regulatory Systems Strengthening, sharing its expertise to improve global health and health security.

3 Factors critical for success

i. Skills and resource

- The MHRA could compare its organisational culture against leading regulatory bodies and organisations, both within and beyond the life sciences sector. Within this, the regulator could consider models that make greater use of external experts, whether from academia, industry, or the wider health system. Particular focus should be placed on recruiting sufficient digital and data skills.

ii. Funding

- There must be an adequate and stable funding regime for the MHRA, allowing it to fully deliver on the ambition to improve the UK's competitiveness in clinical research, regulation, evaluation, and adoption.

iii. Collaboration and stakeholder engagement

- Expansion of the work of the Medicines Industry Liaison Group would help facilitate close collaboration on the direction of the UK's regulatory framework, such that it reflects how companies work and where science is leading life sciences innovation. This should include a formal role in shaping the framework and methodology by which the government and the MHRA measure the favourability of regulatory change with regard to conducting clinical research and manufacturing and supplying medicines.

1. Introduction

The UK is one of the world leaders for life sciences, being home to world-class academic institutes, a publicly funded, single-payer, national health service, and life sciences companies ranging from large multinationals to small and medium-sized enterprises (SMEs).

The life sciences sector makes a valuable and strategically important contribution to the UK, supporting economic growth and underpinning the health and resilience of the population. The sector directly employs over 250,000 people and has a turnover of over £80bn.[1]

The strength of a country's regulatory system is one of a range of considerations pharmaceutical innovators consider in identifying markets for research investment and/or initial product launch. This attractiveness of a country to the life sciences industry is described in the report as the international competitiveness.

Factors such as uptake of innovation, the strength of intellectual property frameworks, financial incentives and research and development (R&D) investment are all critical in improving competitiveness. However, these are out of scope of this report, which will focus on the UK's regulatory framework.

Oversight by effective, independent regulators such as the MHRA (see Box 1) not only gives patients and clinicians confidence that medicines are safe, high-quality, and effective, but will also contribute to the international competitiveness of the UK relative to other countries.

Box 1: The Medicines and Healthcare products Regulatory Agency (MHRA)

Medicines are highly regulated products, and medicines regulation must strike a balance between timely patient access to new treatments and consistent standards of safety, quality, and efficacy.

The MHRA is the UK-wide government body that regulates medicines, medical devices, and blood products for transfusion. It uses a range of evidence to ensure that, for the products it regulates, the medicine's benefits outweigh any potential risks. Once a medicine is being used to treat patients, the MHRA continues to monitor it to ensure that the benefit-risk profile remains positive. It also works with industry to support the development of new therapies by providing advice and regulating clinical trials and manufacturing.

The UK is part of an increasingly competitive and changing global ecosystem. Regulatory regimes need to be dynamic and constantly evolving to adapt to the latest scientific and technological advances, as well as factors such as environmental sustainability and data privacy. A world-class regulator needs to set and promote international best practice by working directly with other regulators, as well as through multilateral organisations leading on regulatory cooperation, work-sharing, collaboration, and harmonisation issues.

The UK has long been at the forefront of innovative approaches to medicines regulation and, post-Brexit, can take on more of a leadership role in shaping international regulatory policy. This is described in the report as the international influence of the UK and is crucial for supporting the UK's position as a leading market and fulfilling its potential.

This report considers, from first principles, how the UK can approach the regulation of medicines, embedding an integrated, end-to-end system that best supports patient access to innovative treatments. It does not explore all regulatory touchpoints in detail but makes a series of recommendations on how the UK can pursue a refreshed regulatory strategy, one that results in an internationally competitive domestic regulatory framework able to encourage greater investment into UK jobs and growth while, at the same time, maintaining a role as a top-tier global regulator, working with partners internationally to improve patient access to safe, effective, and innovative medicines. While it also acknowledges that the medical devices regulatory environment is important, and interwoven with much of this landscape, medical devices regulation is not within the scope of this report. The report is segmented into four broad chapters:

1. Evolving environment for the UK's regulatory policy: this chapter sets the context in which the recommendations are being made. The last two years in particular have seen a substantial amount of change to UK public policy. COVID-19, despite being global in its impact, presented the UK with a unique opportunity to be at the forefront of national and international efforts to bring treatments and vaccines to patients faster. The agility and flexibility with which the regulatory environment reacted to enable this will have a lasting impact on regulatory policy in the sector.

   A further challenge, unique to the UK, is the process of leaving the European Union. While still an evolving picture, Brexit provides an opportunity and impetus for the UK to innovate and further develop its pharmaceutical regulatory framework.

   These two significant developments run in parallel to a recalibration of the domestic agenda in which the government is resetting the domestic foundations of the policy framework, in line with its ambition for the UK.

2. Internationally competitive regulatory framework: in setting out a vision for the future of UK life sciences regulation, it is necessary to start with identifying a set of principles that are fundamental for success. This chapter addresses what those principles are and seeks to evidence why those are important for an internationally competitive framework, examining where the UK should look to strengthen its focus and lead internationally without differentiating so substantially in its regulatory regime that it creates friction for global pharmaceutical companies.

3 Influencing international regulatory policy: the MHRA is already a leading medicines regulator. The organisation, and by extension the UK's regulatory framework, is a substantial asset for the UK's ambitions to be a global leader in life sciences and for the UK Government's diplomatic and trade policy activity. This chapter aims to set out the key components of an international regulatory strategy that ensures that the UK remains a leading player to help define and set evidence-based global regulatory standards and rules.

4. Factors critical for success: the final chapter articulates those details that will propel forward the vision for the UK to remain internationally competitive and influential. It provides the context and makes recommendations on how to ensure that the MHRA is resourced and funded adequately to be one of the best in its class; how to maintain open dialogue and a collaborative environment between industry, research, academia, and government; and how to ensure that the UK continues to attract the right skills and expertise to be world-leading.

2. Evolving environment for the UK's regulatory policy

Political and social developments over the past two years have brought significant change to almost all aspects of the UK economy. With Brexit, COVID-19 and a new domestic policy agenda, the life sciences sector has been acutely exposed to this rapid pace of development.

The developments outlined below are those that will require a new, dynamic approach to regulation if the UK is to seize the opportunities on offer.

Brexit

Post-Brexit, the decoupling of the MHRA from much of the EU's regulatory architecture has and will profoundly change its workload and responsibilities, as well as alter the way industry interacts with both the MHRA and the European Medicines Agency (EMA) on a range of regulatory matters.

The UK now can shape its independent regulatory policy strategy in a way that places the MHRA at the forefront of developing 'gold standard' regulatory frameworks and innovative practices for new technologies. However, this should be done in a way that ensures the UK remains internationally competitive. Drastically diverging from the direction of travel of other world-leading regulators could have negative consequences, such as the UK becoming a late launch market – or no launch market at all – for new treatments. This could arise due to the pressure on company resource of compiling and submitting multiple different dossiers to regulators, leading to profound implications for UK patients needing access to innovative and novel therapies. Ultimately, the UK needs to strike a balance between forging its own path as a sovereign regulator whilst ensuring strategic partnerships with other leading regulators, including the EMA, are nurtured.

Box 2: Northern Ireland Protocol

At the time of writing, the Northern Ireland Protocol (NIP) as currently written will introduce a number of regulatory complexities that create unique challenges for life science companies looking to maintain supply of their medicines to patients in Northern Ireland. Left unaddressed, the current uncertainties will negatively impact Northern Ireland patients' access to medicines and the competitiveness of the UK in this space.

The NIP, in this case, is a stark example of how the regulatory environment can impact not just the competitiveness of a geography but go as far as disincentivising companies from launching in Northern Ireland or Great Britain altogether.

COVID-19

As with other countries, the UK's health system and life sciences regulatory framework has had to adapt to the challenge of the COVID-19 pandemic. The MHRA has been at the forefront of coordinating efforts nationally and internationally to bring treatments and vaccines to patients and the public rapidly and safely. Reflecting this agility and leadership, the UK's regulator was the first to grant 'temporary authorisation to supply' for a COVID-19 vaccine.

Throughout the pandemic, the MHRA has developed new ways of working, rapidly responding to changing circumstances. It is important that the positive lessons and practices are applied and maintained post-pandemic. These include:

- Agility and flexibility in working with partners in the UK and internationally
- Close collaboration with the NHS as a partner for clinical research
- Rapid, and streamlined, set-up and approval of clinical trials and subsequent medicines and/or vaccines, whilst maintaining high standards of patient safety
- Rolling evidence reviews to allow for rapid product licencing approvals whilst maintaining high standards of safety, efficacy, and quality
- Integration and review of real-world data to provide robust public health advice in real time

The experience of the MHRA during the crisis demonstrates that there are a range of new ways of working and policy changes that can deliver a forward-looking, agile regulatory environment with patient protection at its core.

Re-setting the domestic foundation

Since the start of 2021, the government has developed a number of policy documents that chart a roadmap towards becoming a life sciences superpower, an ambition which has been articulated repeatedly over the last five years. Effective regulation is highlighted as a fundamental building block for reaching this goal.

Firstly, the government's Life Sciences Vision[2], published in July 2021, sets an ambition to deliver a progressive, innovative, and simplified UK regulatory offer to companies, whilst maintaining international regulatory standards and meeting the four objectives of the overall Vision (see Box 3).

Box 3: Four themes of the UK Life Sciences Vision to harness potential of future innovation:

- Building on the new ways of working from COVID-19 to tackle future disease missions*.
- Building on the UK's science and clinical research infrastructure and harnessing the UK's unique genomic and health data.
- Supporting the NHS to trial, purchase and spread innovative technologies more effectively, so that cutting-edge science and innovations can be embedded widely across the NHS as early as possible, and rapidly adopted in the rest of the world.
- Creating the right business environment and culture in the UK in which firms can access the finance to grow, be regulated in an agile and efficient way, and manufacture and commercialise their products in the UK.

* Disease missions will focus on tackling some of the big healthcare challenges of the future, with a single empowered decision maker to mobilise private and public sector science and investment akin to the model undertaken by the Vaccine Taskforce in response to the pandemic. They include tackling neurodegeneration and dementia, cardiovascular disease, respiratory disease, ageing, and mental health, among others.

The Life Sciences Vision is complemented by the MHRA Delivery Plan 2021-2023[3] and adds impetus to this by detailing how regulation can evolve further to uphold scientific rigour, protect patients, and keep pace with fast-moving scientific developments.

In addition, the government has laid out a range of ambitious objectives for the sector. An innovation strategy, an R&D Roadmap[4], a health data strategy[5] and a series of commitments to transform the clinical trials landscape, such as the Future of Clinical Research Delivery implementation plan, have already been announced, with several already moving into implementation. Furthermore, the government has passed the Medicines and Medical Devices Act 2021[6] (MMDA), which sets out a framework for developing the details of the UK's approach to life sciences regulation following its exit from the EU. This framework explicitly states the objectives and role of regulation, outlining that such regulation should have regard to the safety and availability of medicines, and how this will ensure the UK remains a destination of choice for life science companies to carry out research, conduct clinical trials and manufacture and supply medicines.

Embedding other aspects of the life sciences framework – including investment in R&D, evolution of data infrastructure, a close working relationship with the NHS, and ensuring access to finance and a competitive fiscal environment for the UK's active SMEs – are all part of a broader set of considerations to factor into the UK's approach to regulation.

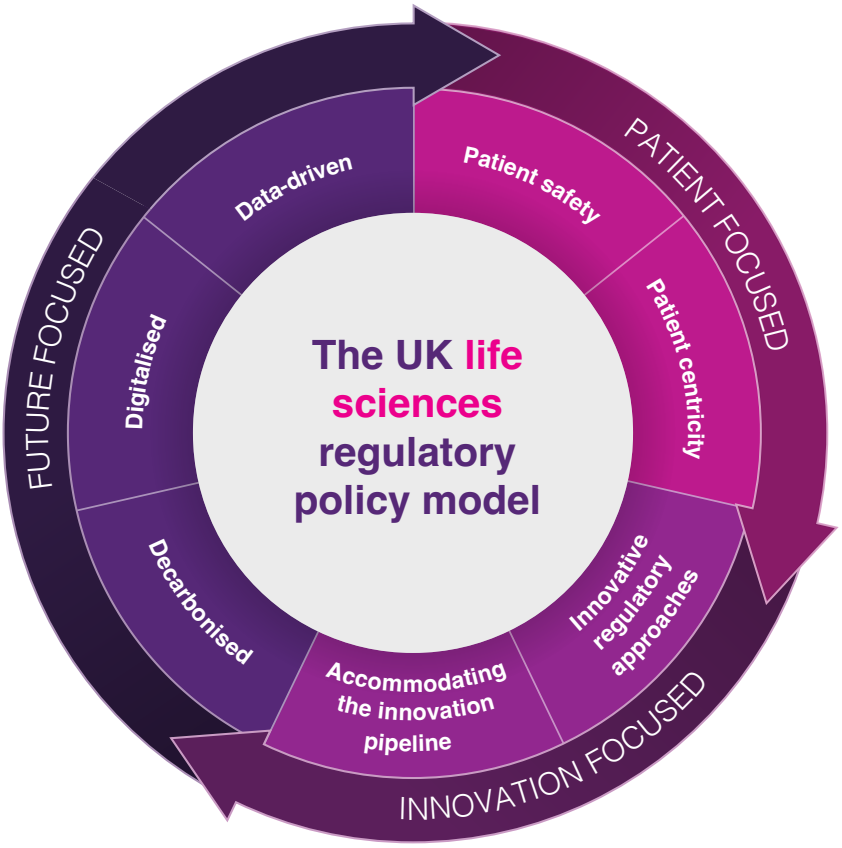
3. An internationally competitive regulatory framework

The UK's domestic regulatory pathways are already in place and set up alongside the EU reliance route. The regulatory foundation that underpins post-Brexit Britain is aligned to the international regulatory standards and practices which have evolved over decades in response to the innovations in science and technologies in life sciences. The UK regulatory framework needs to stay in sync with international regulatory science for the benefit of UK patients and public health. From a more practical perspective, as only 2.4% of the global market for pharmaceuticals[7], the UK cannot afford to substantially differentiate its regulatory regime to the point that it creates friction for global manufacturers. Rather, the UK should seek to align itself, where possible, with other international regulators like the Food and Drug Administration (FDA) in the United States and the EU's EMA on wider international standards concerning matters of basic life sciences regulation, where consensus has already been formed.

A framework for an internationally competitive regulatory system

In setting out a vision for the future of UK life sciences regulation, it is necessary to start with identifying the objectives that are fundamental for success. The ABPI believes that there are three themes to support a successful internationally competitive regulatory framework, underpinned by good governance, sufficient funding, and collaboration with industry and other cross-governmental bodies: essentially, being patient, innovation and future focused.

Figure 1: Objectives for an internationally competitive regulatory framework



Patient-focused: patient safety and keeping patients at the centre of decision making is fundamental. Patients and the public need to be engaged to inform medicine development. This will ensure the provision of clear and effective evidence-based guidance for clinicians and patients to help them understand any risks and pursue appropriate treatments.

Innovation-focused: a progressive regulatory framework will need to continue to adapt to emerging science and technologies to keep pace with the fast-moving global landscape. This should encompass not only a focus on innovative medicines, such as cell and gene therapies, but also innovation in regulatory pathways themselves. This will involve seeking new ways of working with researchers and the health system to bring new therapies to market faster.

Future-focused: the pharmaceutical sector has been at the forefront of adapting to recent trends, whether greater public and political expectations on the environmental impact of medicines and packaging or the possibilities of data and digitalisation. The UK's regulatory framework must be an enabler, linking with non-pharma regulatory bodies and setting incentives to ensure the sector not only keeps pace but leads by example.

Patient-focused

Summary of recommendations:

- The MHRA and industry should support the Patient Safety Commissioner to maximise impact, and an advisory panel is an example of how this could be actioned.
- The MHRA, industry and patient groups should collaborate to ensure that its Patient and Public Engagement Strategy delivers improvements for the regulatory environment through benchmarking against leading national and international regulators.
- In the interest of transparency, the ABPI recommend that the MHRA publish an annual report outlining how patient and public engagement has been embedded in regulatory processes, include the metrics used to measure this engagement, and report on the diversity of clinical trial participation.
- The MHRA is encouraged to work further with international partners, including through the International Conference on Harmonisation (ICH), to lead and operationalise the development of internationally harmonised guidance on measuring patient outcomes and on public and patient engagement in clinical trials and the wider regulatory pathway.

Patient safety

Industry is committed to upholding and, wherever possible, improving patient safety. The ABPI strongly supports the MHRA and the health system in the work they undertake to achieve this shared objective, but there is always room for improvement. The government's response to the Report of the Independent Medicines and Medical Devices Safety Review presents a number of concrete actions to improve patient safety, which the pharmaceutical industry endorses and looks forward to working with the government, regulators and the NHS to implement.[8] COVID-19 has also demonstrated the leading role the UK could take in promoting and supporting post-marketing surveillance, where the MHRA used real-world evidence from vaccine efficacy and safety to update guidance in real time.

It is important that the Patient Safety Commissioner[9] works closely with the MHRA and industry to ensure that new or updated safeguards do not create unnecessary, substantial regulatory burdens that diverge from global standards. While doing so, there is also an opportunity for the UK to develop a best-in-class patient safety framework which could inspire other jurisdictions to implement the UK's rules.

To facilitate close and transparent working with the MHRA and industry, the Patient Safety Commissioner should consider having a representative from the MHRA serve on their advisory panel. To enhance the MHRA's ability to appropriately respond to, anticipate and inform patients and the public, the Commissioner could also undertake a programme of work to provide training and support for patient representatives to engage with the MHRA across their decision-making processes. The establishment of a separate pharmaceutical industry and patient liaison panel co-producing regulation and guidance on patient safety could – within MHRA structures – also support this vision.

The way regulation and the implementation of regulation covers issues of safety must wholly embrace patient centricity. Transparency in adverse event reporting is essential to maintaining the trust of clinicians and the public.

Recommendation:

- The MHRA and industry should support the Patient Safety Commissioner to maximise impact, and an advisory panel is an example of how this could be actioned.

Patient centricity

As outlined in the ABPI's patient engagement strategy[10], increasing and improving patient involvement and engagement throughout the regulatory process contributes to the collection of richer and more accurate data about the effect of therapies, thereby encouraging patients and the public to participate in clinical research.

This enables medicines developers to better meet the needs of patients, improving patient outcomes and increasing the likelihood that therapies are adopted and adhered to. Embracing meaningful patient engagement in clinical research and regulatory activity could be a point of differentiation for the UK, offering an additional pull-factor that encourages medicines developers to undertake research in the UK.

The MHRA's Patient Involvement Strategy,[11] alongside the government's commitments to reinvigorate clinical research following COVID-19,[12] contains a range of measures to improve the patient centricity of the regulatory framework. The piloting of various approaches to 'design-in' patient involvement, including through the Innovative Licensing and Access Pathway (ILAP)[13] are positive steps. We hope that the MHRA will monitor this piloting work closely and seek to expand to beneficial approaches and initiatives.

As is being explored for the debate around data use in clinical contexts, the MHRA could employ citizen juries and partner with groups such as Understanding Patient Data, the Patient Information Forum (PIF), and National Voices to implement a programme of work to improve medical/health literacy among the patient population, thereby embedding inclusive patient involvement where the patient voice can improve safety, efficacy, and quality in medicines and vaccines development.

In line with its Patient Involvement Strategy, the MHRA should consider becoming an international leader in patient engagement. This could be achieved by working with the FDA, EMA and other regulators through Engagement Cluster[14] meetings and other forums, as well as benchmarking its patient engagement work against peers. This could also include building on the work of guidelines such as the Innovative Medicines Initiative (IMI) PREFER and PARADIGM,[15,16] and INCLUDE from the National Institute for Health Research (NIHR), which provide toolkits and mechanisms to promote robust, diverse patient inclusion, particularly for under-represented groups and children and young people.

The MHRA could also explore prioritising engagement through the International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH) on patient involvement, leading work to develop harmonised guidance on clinical and patient outcome measurement and building on the work in the ICH's June 2021 reflection paper on patient-focused drug development.[17] Complementary to this effort, output from existing initiatives which focus on the development and application of agreed standardised sets of patient outcomes, such as COMET,[18] should be considered by the MHRA and within ICH.

To best integrate real-world evidence (RWE) of the patient experience into research and development, regulators and industry should develop a deeper understanding of, and curiosity in, the patient journey beyond safety issues, including collecting data on the causes of 'medicines adherence'. Generating better understanding here would allow for more effective co-design of care pathways and more effective use of pharmaceutical products.

Recommendations:

- The MHRA, industry and patient groups should collaborate to ensure that its Patient Involvement Strategy delivers improvements for the regulatory environment through benchmarking against leading national and international regulators.
- In the interest of transparency, the ABPI recommend that the MHRA publish an annual report outlining how patient and public engagement has been embedded in regulatory processes, include the metrics used to measure this engagement, and report on the diversity of clinical trial participation.
- The MHRA is encouraged to work further with international partners, including through the ICH, to lead and operationalise the development of internationally harmonised guidance on measuring patient outcomes and on public and patient engagement in clinical trials and the wider regulatory pathway.

Innovation-focused

Summary of recommendations:

- The MHRA could maximise early participation of the Innovative Licensing and Access Pathway (ILAP) by engaging partners in early dialogues for a more cohesive and regulatory access process, as it seeks to further expand the suite of innovative authorisation procedures available. It could also consider creating a horizon scanning mechanism to identify innovative regulatory practices occurring elsewhere.
- Innovation could be better embedded in the new MMDA if the MHRA were to establish dialogues with regulatory peers and prioritise a review of the ATMP and precision medicine regulatory environment, whilst working with industry to identify efficiencies.

Innovative approaches to regulation

The UK has a strong track record of supporting innovation and developing innovative regulatory models that bring treatments to patients faster. Building on the existing regulatory environment by providing additional routes to market can incentivise pharmaceutical companies to consider the UK a priority market for launch. Welcome examples of the UK's current approach include:

- The Early Access to Medicines Scheme (EAMS).[19] Launched in 2014, EAMS provides access to life saving medicines ahead of the granting of a marketing authorisation, where medicines gain the Promising Innovative Medicine (PIM) designation[20]. 100 medicines have been approved by the scheme since 2014, allowing wider access to treatments while clinical trials are still ongoing.[21]
- The Innovative Licensing and Access Pathway (ILAP).[13] Launched in 2021, ILAP takes a longer view, granting Innovation Passports to promising medicines from the pre-clinical research stage. This allows manufacturers of highly innovative medicines to engage earlier with the ILAP Partners (i.e., MHRA, NICE and the Scottish Medicines Consortium (SMC)), and other relevant stakeholders, to develop a target development profile (TDP). The TDP is a product specific, living document that will define key regulatory and development features, highlight potential challenges, and inform development of a roadmap. Products awarded an Innovation Passport can also access the ILAP toolkit, which includes new licensing routes such as Project Orbis. In February 2021, MSD's treatment belzutifan became the first medicine to be awarded an Innovation Passport and many more products have successfully applied for Innovation Passport designation since.[22]

If decision-making across the regulatory, Health Technology Assessment (HTA) bodies and NHS aligns, these pathways can help the UK deliver faster regulatory assessments and bring treatments to patients sooner.

ILAP in particular is a valuable tool contributing to the ambition of making the UK a precision medicine global leader. Furthermore, in the same spirit of enabling earlier patient access to medicines via EAMS and the ILAP, the MHRA may wish to create a mechanism wherein medicines that have passed through such robust regulatory pathways would not necessitate a separate and full Marketing Authorisation Application (MAA) afterwards. A streamlined and expedited MAA route could be put in place and made available for such cases.

Going forward, a research programme could be initiated to horizon scan alternative approaches to regulation and its implementation, drawing on best practice from other sectors and providing a quantitative evidence base for change. The MHRA could explore new ways to conduct and promote research into cutting-edge policy and regulatory issues, especially with partners in the academic sector. It could also consider following a partnership model such as the FDA and the Duke Margolis Center for Health Policy,[23] which provides expert horizon scanning insights for best practices in regulatory processes. If taken forward, such an initiative should be overseen by the new Global Opportunities Board (GOB), a sub-group of the Life Sciences Council.

Recommendation:

- The MHRA could maximise early participation in ILAP by engaging partners in early dialogues for a more cohesive and regulatory access process, as it seeks to further expand the suite of innovative authorisation procedures available. It could also consider creating a horizon scanning mechanism to identify innovative regulatory practices occurring elsewhere.

Evolving to accommodate the innovation pipeline

The pharmaceutical industry is constantly innovating. To ensure that health systems are prepared to rapidly adopt this innovation, it is important that regulatory processes can adapt, in a timely manner, to any unique challenges arising whilst still ensuring that products are assessed at the highest standards. One example of this innovation is precision medicines.

The UK already has an exemplary track record in the research, development and bringing to market of precision medicines. The development of research infrastructures such as the Biobank and National Institute for Health Research BioResource, together with the work of organisations such as Genomics England and the Cell and Gene Therapy Catapult, puts the UK in a leading position globally.

The regulatory framework for Advanced Therapy Medicinal Products (ATMPs) globally is evolving rapidly as we gain a greater understanding of the nature and effects of such treatments. As outlined in the Life Sciences Vision, there are clear patient benefits to be realised from entrenching the UK's position as a global leader in genomics and personalised medicine, using emerging tools such as single cell sequencing, dynamic gene expression profiling and systematic CRISPR screens. Providing a robust and flexible regulatory framework is a fundamental part of realising this ambition.

The provision of advice from regulators and greater visibility of the route from assessment to licensing and reimbursement for emerging therapies and tools would improve the attractiveness of the UK market for life science innovators. In particular, the MHRA could seek further innovative approaches to the application of Good Manufacturing Practice (GMP) guidance to ATMPs, to the interpretation of the 'hospital exemption'[24] clause currently used to allow unlicenced use and to harmonise or minimise compliance procedures around deliberate release and contained use regulations.[25]

The UK is already a leader in this space,[26] but continued development of regulatory expertise will be crucial. At a minimum, establishing dialogues on these emerging fields between the MHRA and its regulatory peers is necessary to ensure that UK medicines regulation keeps pace. International competitiveness can also be maintained by streamlining the approach to regulatory approval for ATMP trials. For example, where genetically modified organisms (GMOs) are involved, it would be efficient to provide a single front door for trial sponsors to align regulatory processes managed by the MHRA, the Health Research Authority (HRA) and Health and Safety Executive (HSE).

Recommendation:

- The MHRA could maximise early participation in ILAP by engaging partners in early dialogues for a more cohesive and regulatory access process, as it seeks to further expand the suite of innovative authorisation procedures available. It could also consider creating a horizon scanning mechanism to identify innovative regulatory practices occurring elsewhere.

Future-focused

Summary of recommendations:

- The MHRA can assist industry in their climate change goals for supply chain by developing regulation that responds to new material and data technologies and enables sustainable practices.
- The MHRA should press forward with its planned IT transformation programme and work with NHS Digital, NHSX and other stakeholders to integrate digital approaches to clinical research with the wider health system. This should also include an assessment of its skills requirements for informatics and computational sciences and put in place a plan to fill any skills gaps as a matter of urgency.
- Greater engagement between MHRA, NIHR, HRA and the devolved administrations would build on current work to develop guidance supporting virtual and decentralised trials, including through the establishment of an early advice service for trials with innovative design or delivery approaches.
- The MHRA can explore working with the Information Commissioner's Office (ICO) and relevant NHS bodies to develop a concise and robust approach to patient consent for clinical research. It could also look to build on current draft guidance to embed RWE into regulatory processes.
- A broader and standardised patient consent model could be achieved, should the MHRA work with partners, based on the NIHR BioResource template.

Decarbonisation

The UK life sciences sector is firmly committed to achieving net zero and to reducing the environmental impact of its work. The ABPI wholly supports the government's broader commitments to sustainability and there is much that industry is doing to meet their own ambitious sustainability goals.

The Life Sciences Vision sets out a range of ambitious goals for the sector, including for the NHS and its supply chain to reach net zero by 2045. Many ABPI members have set ambitious goals for carbon neutrality across their business from 2030 to 2050, have signed up to United Nations (UN) Sustainable Development Goals, and have committed to the UN "Race to Zero". Many have already achieved ISO accreditation for the environmental contribution for their facilities and partnered through the Pharmaceutical Supply Chain Initiative (PSCI) to share best practice and harmonised approaches to climate change.

The optimisation and digitalisation of the regulatory system can contribute to reducing the sector's impact on the environment. Moving to remote, paperless working where possible can reduce costs and negative environmental impact. A sufficiently substantial package of measures, such as accelerating the shift to electronic product information, with clear scope definitions and an implementation roadmap as the default, could produce cost savings that incentivise industry to locate activity in the UK, as well as offer wider access to safety information and training for both healthcare providers and patients. Separately, a new regulatory framework to promote and assure, at commercially viable scale, the supply of recycled products suitable for primary and secondary packaging of medicines and medical devices would lower the barrier for adoption and support a circular economy.

As part of the review of the regulatory framework inherited from the EU, the MHRA could assess the environmental impact of current regulations and the potential for incentives to be introduced in any regulatory changes, including those which reward positive efforts that contribute to wider policy goals. In particular, the MHRA could work with the NHS, other regulators, and the government to understand how sustainability metrics and incentives can be ingrained in innovative regulatory pathways, such as ILAP.

Recommendation:

- The MHRA can assist industry in their climate change goals for supply chain by developing regulation that responds to new material and data technologies and enables sustainable practices.

Digitalisation

Undertaking regulatory assurance processes inherently takes time as experts consider the safety and efficacy implications of regulatory filings. This is an inherent part of the process, and it is important to ensure the necessary steps are taken to support decision making. There are, however, ways in which the processes that underpin this robust scientific assessment can be accelerated, which can also deliver cost savings in conducting trials.

COVID-19 has prompted a shift to new ways of working, including rapid digitisation, rolling reviews, remote inspections, and support for decentralised, or virtual, clinical trials. The MHRA has been at the forefront of enabling this flexible working, which has contributed to the success of the RECOVERY trial. The MHRA Delivery Plan 2021-2023 builds on the experience of remote inspections and digital working in 2020 to deliver an optimised IT infrastructure and digital self-service platform, which is welcome.

To continue this shift to more agile ways of working, guidance on decentralised clinical trials and hybrid approaches are likely to be necessary in the long term to support the future conduct of interventional, and non-traditional interventional, clinical trials. To this effect, a regulatory framework that is consistent with other regulatory health authorities globally and with established healthcare practices is needed to enable those capabilities.

Part of this will involve the MHRA, in partnership with the NHS and other regulators, continuing to invest in and support the deployment of new tools, such as machine learning and the use of wearable devices and digital monitoring, to support making the UK the most favourable location to find and recruit clinical trial participants.[27]

As with the life sciences sector as a whole,[28] the MHRA will need to ensure it recruits, trains, and retains the skills to remain at the forefront of digital and data science. The MHRA's Delivery Plan action to review future workforce needs should include a focus on informatics, computational science, and related disciplines. Working in partnership with bodies such as NHSX and NHS Digital, the MHRA should aspire to be a world leader in the digitisation of the medicines development regulatory pathway, as well as the regulation of digital therapies themselves.

In particular, the role of cloud-based data submissions and iterative, real-time reviews could be explored as part of efforts to digitise and streamline the regulatory pathway. Cloud-based approaches can help alleviate many of the resource-intensive aspects of the current process, with documents and data uploaded to a central platform rather than through using a closed standard template.[29]

However, recent events have shown the importance of ensuring IT security is placed at the heart of moves towards digitalised pathways. The cyber-attack on the EMA in December 2020 shows that hackers are increasingly sophisticated in stealing, rewriting, and distributing clinical and regulatory documents. The MHRA should look to collaborate with cyber industry experts to share horizon scanning and best practice, potentially exploring the use of Blockchain Distributed Ledger Technology (DLT) as part of this.

Recommendations:

- The MHRA should press forward with its planned IT transformation programme and work with NHS Digital, NHSX and other stakeholders to integrate digital approaches to clinical research with the wider health system. This should also include an assessment of its skills requirements for informatics and computational sciences and put in place a plan to fill any skills gaps as a matter of urgency.
- Greater engagement between MHRA, NIHR, HRA and the devolved administrations would build on current work to develop guidance supporting virtual and decentralised trials, including through the establishment of an early advice service for trials with innovative design or delivery approaches.

Data-driven

The Life Sciences Vision rightly focuses on the significant opportunities for patient benefit from the safe and effective use of health data sets for clinical research. The Vision, together with the recent draft data strategy for health and care[5] and the Goldacre Review,[30] make a compelling case for investment and policy attention. The ABPI supports these efforts and is keen to see data play a full role in driving research and faster patient access to innovative therapies.

Effective use of data can have substantial benefits in improving the speed and quality of research, as demonstrated in the UK's response to COVID-19. The data-driven approach of NHS DigiTrials, for example, helped to quickly identify dexamethasone as a potential COVID-19 therapy.[31] NHS DigiTrials and the Clinical Practice Research Datalink's Speedy Patient Recruitment Into Trials (SPRINT) initiative could provide substantial benefits in accelerating and reducing the cost of patient recruitment into trials.

From a regulatory perspective, there are two workstreams that could substantially improve the attractiveness of the UK as a global life sciences hub.

First is the alignment of clinical research regulation with data privacy regulation, including deeper partnership working between the MHRA and regulators such as the Information Commissioner's Office (ICO). At present there is a lack of harmonisation across UK health data collection in terms of the consent model, complicating the basis for secondary use of data. The interaction between General Data Protection Regulation (GDPR)[32] and clinical trials regulations can also generate uncertainty.

Working with the ICO, the MHRA has the opportunity to explore how the UK's data protection rules might be refined to support efficient life sciences research while delivering robust consent procedures and data security. The UK's newly awarded 'adequacy status' by the EU is key to maintaining the alignment with key jurisdictions to allow the flow of data between countries where strictly necessary. Should divergence between the UK and the EU occur, data exporters may have to rely on costly and burdensome Standard Contractual Clauses (SCCs) as a legal safeguard, seriously curtailing the flow of vital clinical data.

The second is the MHRA's collaboration with partners in NHSX, NHSE and Health Data Research UK (HDR UK) and how effective models for Trusted Research Environments (TREs) might be developed, integrating the UK's health data architecture with regulatory pathways for medicine approvals.

Recommendations:

- The MHRA can explore working with the ICO and relevant NHS bodies to develop a concise and robust approach to patient consent for clinical research. It could also look to build on current draft guidance to embed RWE into regulatory processes.
- A broader and standardised patient consent model could be achieved, should the MHRA work with partners, based on the NIHR BioResource template.

4. Influencing international regulatory policy

The long-term global outlook is, naturally, affected by some uncertainty, but there are clear trends in terms of medicines regulation. Through their market power, the US and EU will remain the primary hubs of regulation, at least in the near term. However, the UK also has an opportunity to play a leading role in building that consensus and encouraging deeper international convergence by working with overseas regulators to hasten the evolution of technical standards and efficient ways of working.

Within this context, there is increasing collaboration and best practice sharing between regulators, through a variety of mechanisms, to share the burden of work and to collaborate on developing rules and practices. The vision of a wholly harmonised regulatory framework is some way off, but the MHRA and the UK Government should set their international, strategic objectives with this in mind.

The MHRA is already a leading medicines regulator, a reputation that has been enhanced through its response to the COVID-19 pandemic.

The organisation, and by extension the UK's regulatory framework, is a substantial asset for the UK's ambitions to be a global leader in life sciences and for the UK Government's diplomatic and trade policy activity.

As the Life Sciences Vision outlines, the MHRA is in a position to use the UK's unique capabilities to help define and set evidence-based global standards and rules. This influencing is not only a goal in itself, but also a contributor to the reputational strength of the UK life sciences sector and supporting the export of UK innovation to major trading partners.

The ABPI believes that these international efforts can be grouped into three areas of activity:

- Trade policy
- Plurilateral collaborations and bilateral relationships
- Multilateral forums

Trade policy

Summary of recommendations:

- Opportunities for identifying new MRAs with trading partners should be a priority of the UK's trade agenda, and where needed, expanding current MRAs for example including mutual recognition of batch testing in the UK-EU MRA.
- The UK should pursue opportunities for regulatory cooperation with key trading partners as part of its trade agenda to secure the position of the MHRA as a gold-standard regulator. The Life Sciences Global Opportunities Board is well positioned to provide the strategic forum for industry-government considerations of the opportunities and risks associated with a closer working relationship with a given trading partner, which can be taken forward by the Life Sciences Trade Advisory Group.
- Trade deals should include a commitment to collaborate and build a working structure to do so, through: 1) identifying priority areas for discussion/collaboration, and 2) including agreement to establish ways of working with industry.

Different countries can operate under different regulatory and legal frameworks. This can add complexity to the process of developing a marketable medicine. It can also mean that companies face duplicative requirements (and in turn create extra work for regulators) in areas such as inspection of manufacturing sites and obtaining batch testing certificates, causing unnecessary costs and delays. These non-tariff barriers are often less visible than taxes or duties applied to goods that are traded across borders, but their impact is the same: they create barriers to trade that companies spend time and money having to navigate. This ultimately increases the time that patients and health systems must wait for access to new medicines.

The heavily regulated nature of the pharmaceutical industry means that effective trade liberalisation in the sector goes hand in hand with regulatory cooperation and, where possible and desirable, alignment and harmonisation. Bringing in the expertise of regulatory bodies such as the MHRA to advise Free Trade Agreement (FTA) negotiators and even lead on healthcare strands of the UK trade policy strategy is key if the UK is to realise the health and economic benefits of regulatory alignment and cooperation. For example, increased regulatory coherence can reduce the time, cost, and complexity for businesses exporting medicines, and can be achieved by ensuring the UK's high standards are promoted around the world and formally recognised through provisions in FTAs, MRAs or Memorandums of Understanding (MoUs).

FTA talks are useful in creating political impetus and focus behind regulatory dialogues. This creates opportunities to 'negotiate away' problematic regulatory irritants or barriers to market access in the form of FTA provisions, as part of MRAs – which may or may not be attached as annexes to the FTA – or simply via unilateral changes in the domestic regulatory framework of a negotiating counterparty. For their part, MRAs involve UK partners agreeing to

recognise good UK practice in their own regulatory assessments and vice versa, notably for GMP and batch testing. This has a material impact on reducing non-tariff barriers for life sciences businesses by removing duplicate requirements and minimising border paperwork. This ultimately enables faster patient access to medicines and allows resources to be focused on advancing innovation and getting medicines and vaccines to the people who need them.

However, to be effective it is important that once negotiated these bilateral agreements remain fit for purpose and are future proof. Even at this early stage of UK trade policy, we see examples, such as under the UK-EU Trade and Cooperation Agreement, where an MRA has been agreed that recognised GMP inspections but not batch testing. Where it is possible possible to negotiate new, or deepen current bilateral agreements on medicine regulations, the UK must look to update and deepen agreements for regulatory coherence with appropriate trading partners.

Recommendation:

- Opportunities for identifying new MRAs with trading partners should be a priority of the UK's trade agenda, and where needed, expanding current MRAs for example including mutual recognition of batch testing in the UK-EU MRA.

Trade policy can also be used to support the development of the regulatory framework itself, especially for new areas of science and technological development, such as artificial intelligence (AI) or ATMPs, which are key growth industries for the UK and promise to bring life-enhancing and life-saving breakthroughs to patients. The UK should seek to establish mechanisms in trade agreements i.e., MRAs, MoUs, and special chapters to promote the bilateral and multilateral development of interoperable or harmonised regulatory approaches to emerging regulatory issues, thereby hastening the development of global standards and enabling effective work sharing.

For this to be successful industry and MHRA will need to work together to identify the risks and benefits of seeking closer harmonisation with one regulator versus another, as well as where the UK should determine a unique path to give it a competitive advantage.

Recommendations:

- The UK should pursue opportunities for regulatory cooperation with key trading partners as part of its trade agenda to secure the position of the MHRA as a gold-standard regulator. The Life Sciences Global Opportunities Board is well positioned to provide the strategic forum for industry-government considerations of the opportunities and risks associated with a closer working relationship with a given trading partner, which can be taken forward by the Life Sciences Trade Advisory Group.
- Trade deals should include a commitment to collaborate and build a working structure to do so, through: 1) identifying priority areas for discussion/collaboration, and 2) including agreement to establish ways of working with industry.

Plurilateral collaborations and bilateral relationships

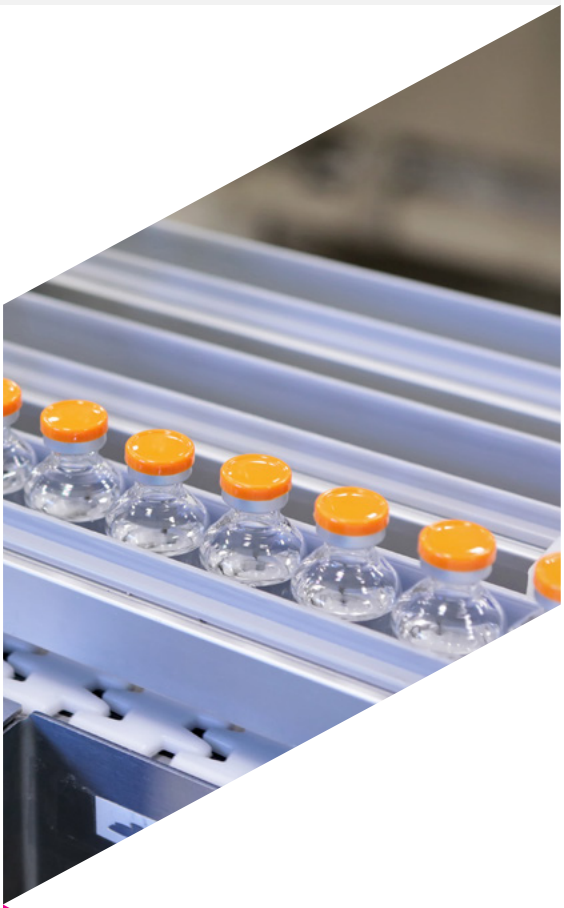
Summary of recommendations:

- Building on the UK's participation in the Access Consortium and Project Orbis, government and industry should work together to identify more opportunities for the UK to deepen the role and scope of the two current schemes. Given existing resource constraints, in the short term the primary focus should be dedicated to deepening the role and scope of the two current schemes rather than seeking to lead additional collaborations.
- To deepen relationships with partners of strategic importance, government should prioritise building the infrastructure to support its ambitions for life science regulation. This could include setting up regular regulatory dialogues, establishing permanent liaison offices in strategic markets, facilitating staff exchanges, and/or establishing experts within the relevant UK embassies.

Plurilateral regulatory collaborations

Recent years have seen the emergence of flexible, multi-party collaborations to coordinate regulatory activity and share the burden of work. All these collaborations seek to accelerate the bringing of novel therapies to patients and to create efficiencies.

One forum is the Access Consortium (Access), a collaboration between regulators in Australia, Canada, Singapore, Switzerland, and the UK. This confers a range of benefits, including resource-sharing for assessment collaboration, convergence on technical and scientific requirements and processes, information sharing and collaboration on emerging areas of work such as incorporation of RWE into regulatory decision-making.[34] Work-sharing arrangements have allowed therapies to be assessed and licensed across multiple markets faster than had they not been assessed under Access. This process also creates cost efficiencies by reducing duplication.



Access has been a very positive experience for industry. To capitalise on this success, the MHRA should aim to continue allocating resource to membership and, as a member, establish ways to influence the efficiency of the collaboration in a positive way. Continuing to deepen collaboration between the members across all aspects of pharmaceutical regulation is key, as is encouraging other like-minded regulators to join the consortium (e.g., in countries such as New Zealand and Japan). The MHRA is also well placed to encourage Access to do more to coordinate regulatory approaches to innovative therapies such as ATMPs.

Specifically for oncology medicines, the UK is also a participant in Project Orbis, an FDA-led initiative launched in 2019 that includes Access members and the Brazilian medicines regulator Agência Nacional de Vigilância Sanitária (ANVISA). This allows medicines manufacturers to submit licensing applications to markets simultaneously and is designed to involve shorter timelines, including compared to the EMA licensing process. The scheme also aligns with the UK's ILAP procedure. For UK patients, this could expedite access to novel therapies and, as a result, the UK should look to work with the FDA and other members to seek an expansion of the scheme to non-oncology medicines.

Recommendation:

- Building on the UK's participation in the Access Consortium and Project Orbis, government and industry should work together to identify more opportunities for the UK to deepen the role and scope of the two current schemes. Given existing resource constraints, in the short term the primary focus should be dedicated to deepening the role and scope of the two current schemes rather than seeking to lead additional collaborations.

Bilateral regulatory relationships

A second area of focus should be building the UK's bilateral collaborative capacity. As two of the largest pharmaceutical markets and as current or prospective FTA partners, the MHRA should build even deeper relationships with national regulators in Japan and the US. As outlined in the Delivery Plan, the MHRA should work closely with the Department for International Trade (DIT) to identify opportunities for discussing regulatory policy in a trade diplomacy context, identifying opportunities for MRAs and MoUs both within and outside the context of trade deal negotiations to deepen relationships with the US, Japan, and other key markets.

This could be achieved using a combination of approaches. For example, establishing permanent liaison offices in strategic markets and/or experts within the relevant UK embassies using an on-site presence to gather intelligence, build networks and deploy the MHRA's thought leadership. Building these networks can also facilitate staff exchanges – similar to those undertaken jointly by the FDA and EMA. These exchanges can enhance flows of information and expertise in key therapy areas between jurisdictions. A less resource intensive approach would be to establish regular regulatory dialogues between the UK and third countries that allows a bilateral discussion on life science regulatory issues. This does not need to be done under the governance of a formal trade agreement.

Recommendation:

- To deepen relationships with partners of strategic importance, government should prioritise building the infrastructure to support its ambitions for life science regulation. This could include setting up regular regulatory dialogues, establishing permanent liaison offices in strategic markets, facilitating staff exchanges, and/or establishing experts within the relevant UK embassies.

Multilateral forums

Summary of recommendations:

- The MHRA should remain an active and strategic member of international forums (ICH, ICMRA, PIC/S), deepening these memberships to advance harmonisation on innovative areas of regulation. Industry would benefit from clear mechanisms which allow input into the issues and direction of travel of MHRA engagement in these discussions.
- UK regulators should seek to be leading voices in WHO networks, including through being full and active members of the WHO's CIP Network for Regulatory Systems Strengthening, sharing its expertise to improve global health and health security.

International regulatory forums

ICH and the International Coalition of Medicines Regulatory Authorities (ICMRA) have brought sovereign regulators together to share best practice, identify synergies and develop internationally recognised technical standards.

The ICH's Good Clinical Practice (GCP) standards have, for example, helped simplify and streamline the approach to cross-border clinical trials, served to protect the rights, integrity and confidentiality of trial subjects, and laid the foundations for reducing the cost and time taken to develop new medicines through harmonised high-quality design and mutual recognition of data. The development and refinement of these guidelines is ongoing, reflecting in part the need for them to be applied appropriately and cost effectively. The ICH has also issued comprehensive Safety Guidelines (SGs), along with Quality Guidelines (QSs), Efficacy Guidelines (EGs) and Multidisciplinary Guidelines (MGs, which cover areas such as the electronic transfer of regulatory information).

Similarly, the Council for International Organisations of Medical Sciences (CIOMS) issues guidance on a number of topics relating to medicines safety, health research and pharmacovigilance, most recently issuing guidance on active vaccine safety surveillance and drug-induced liver injury.

However, there is much more to be done to improve coordination between regulators and to harmonise technical standards, with barriers ranging from cultural differences to resource limitations. Efficiencies could be applied on workstreams such as pharmacovigilance and supply chain integrity through better sharing of data and unity of approach.

Both the ICH and ICMRA offer opportunities for the MHRA to influence the trajectory of global regulatory alignment, giving UK patients and industry a greater say in the developments of these rules and processes. The ICH is the primary venue for promoting international regulatory cooperation, which seeks to remove duplication of administrative processes and reduce trade barriers through harmonisation. The MHRA was admitted as an observer to the ICH in June 2021. It is possible that the MHRA will be granted full membership as soon as Q4 2021 under an expedited procedure. The UK Government should provide support to facilitate this outcome.

Once membership has been secured, the MHRA has the opportunity to drive the next stage of the ICH's development, including by suggesting a strategic review or reflection paper covering the body's role and remit. The MHRA could explore whether the ICH is able to evolve into a platform for coordinating dossiers and otherwise providing alignment for regulatory approval processes.

Recommendation:

- The MHRA should remain an active and strategic member of international forums (ICH, ICMRA, PIC/S), deepening these memberships to advance harmonisation on innovative areas of regulation. Industry would benefit from clear mechanisms which allow input into the issues and direction of travel of MHRA engagement in these discussions.

Cooperation through the World Health Organization (WHO)

The COVID-19 pandemic has demonstrated the importance of supporting countries with less regulatory capacity. Cooperation between regulatory authorities to promote global health objectives is not, however, new. The WHO has been at the forefront of leading regulatory cooperation and improving regulatory efficiency, in particular resolving at the 67th World Health Assembly to focus a programme of work on strengthening regulatory systems for medical products.[35]

The 2021 G7 summit endorsed the importance of international regulatory cooperation, through both the Therapeutics and Vaccines Clinical Trials Charter[36] and the Pandemic Preparedness Partnership (PPP) – pioneered by the UK – which seeks to bring new therapies to patients within 100 days of a new pandemic threat emerging.[37] The MHRA will be a crucial resource and driver of change in realising the ambitious objectives of the PPP.

Initiatives such as the WHO's Coalition of Interested Parties (CIP) Network for Regulatory Systems Strengthening[38] are essential for prompting the collaboration and shared standards that will underpin more efficient medicines development and supply. Furthermore, the WHO's International Conference of Drug Regulatory Authorities (ICDRA) has been a driving force behind delivering smarter and more dynamic regulation during the COVID-19 pandemic, along with wider safety issues relating to post-approval changes (PACs).

UK participation in these networks is also in line with the UK's wider global ambitions and stands as an opportunity to accrue and deploy soft power. Furthermore, it is an opportunity for the MHRA to shape the wider trajectory of global regulatory harmonisation across medicines and medical devices.

Box 4: NIBSC's work with the WHO

The collaboration between the WHO and the National Institute for Biological Standards and Control (NIBSC, itself part of the MHRA) shows the strength of the MHRA's existing engagement work and provides a model for future international cooperation.

At present, the NIBSC is the world's leading producer and distributor of WHO international biological standards (which are batches of substances used to 'benchmark' biological medicines) and reference materials, supplying over 95% of those extant worldwide. The NIBSC's work is vital to ensuring that vaccines and biological medicines are used safely and effectively.

The NIBSC works closely with the WHO to develop its materials and, in the process, has placed itself at the forefront of international expertise and excellence, driving and shaping standards worldwide.

Recommendation:

- UK regulators should seek to be leading voices in WHO networks, including through being full and active members of the WHO's CIP Network for Regulatory Systems Strengthening, sharing its expertise to improve global health and health security.

5. Factors critical for success

Summary of recommendations:

- Skills and resource: the MHRA could compare its organisational culture against leading regulatory bodies and organisations, both within and beyond the life sciences sector. Within this, the regulator could consider models that make greater use of external experts, whether from academia, industry, or the wider health system. Particular focus should be placed on recruiting sufficient digital and data skills.
- Funding: there must be an adequate and stable funding regime for the MHRA, allowing it to fully deliver on the ambition to improve the UK's competitiveness in clinical research, regulation, evaluation, and adoption.
- Collaboration and stakeholder engagement: expansion of the work of the Medicines Industry Liaison Group would help facilitate close collaboration on the direction of the UK's regulatory framework, such that it reflects how companies work and where science is leading life sciences innovation. This should include a formal role in shaping the framework and methodology by which the government and the MHRA measure the favourability of regulatory change with regard to conducting clinical research and manufacturing and supplying medicines.

The scope for regulatory policy to act as a pull factor for global pharmaceutical companies requires a unified, strategic direction shared across the health system, the regulators and relevant government departments. It will be vital that the appropriate resource and funding is in place to ensure that the UK regulatory system reaches its potential.

Furthermore, setting a well-functioning regulatory framework must be complemented by effective, system-wide governance, which facilitates a collaborative culture, not only between regulators and other public bodies but also with industry and patients. Engagement between regulatory bodies and industry should, where appropriate given commercial sensitivities, be open and transparent to ensure that there is no reality or perception of favourable treatment, and to provide the basis for meaningful dialogue and efficient decision-making.

Finally, it is essential that the integrated, end-to-end medicines regulatory system is aligned with national and international policy goals and benefits from joined-up technical and political leadership.

Skills and resource

The strategic intent of the government and the MHRA, and the extent and nature of collaboration between them and other parties, will be fundamental for the success of the UK's future regulatory policy. The MHRA already excels at much of this; a key consideration is therefore whether it will continue to have the skills and resources to act as a best-in-class regulator, alongside fulfilling global ambitions.

For the UK to reach its goals in this space, it is fundamental that the regulator is appropriately resourced, including through the recruitment, training, and retention of highly skilled staff. As with the life sciences sector as a whole, regulators are encountering increasing competition for key skills such as informatics and data science. Regard must therefore be given to the attractiveness of regulation and regulatory policy as careers for the brightest and best if the MHRA is to continue attracting and retaining skilled and talented staff. The 2021-23 Delivery Plan outlines a range of initiatives to review workforce needs and devote resources to attracting the requisite staff and developing a progressive organisational culture.

Approaches such as that pursued by the Danish Medicines Agency[39] can be used to attract external assessors and other resources to augment internal resources, using effective, transparent governance processes to manage potential conflicts of interest. The UK life sciences sector has a wealth of expertise and experience which the MHRA should tap into as it pursues a more ambitious, global agenda.

Recommendation:

- The MHRA could compare its organisational culture against leading regulatory bodies and organisations, both within and beyond the life sciences sector. Within this, the regulator could consider models that make greater use of external experts, whether from academia, industry, or the wider health system. Particular focus should be placed on recruiting sufficient digital and data skills.

Funding

Securing adequate government funding to meet the UK's ambition will be critical. As per the Delivery Plan, the reconsideration of the regulator's business plan is also an opportune moment to determine where the priorities lie, where resources can be saved through work-sharing or recognition of assessments undertaken by other regulators, and how resources compare to similarly ambitious regulators in life sciences and other sectors.

Crucially, the new activities the MHRA undertakes domestically and in collaboration with other global regulators and multilateral organisations must be appropriately funded through increased long-term multi-year public investment – any additional costs through fees and charges to industry would be counterproductive to the objective of increasing the attraction of the UK as a place to invest in life sciences.

Recommendation:

- There must be an adequate and stable funding regime for the MHRA, allowing it to fully deliver on the ambition to improve the UK's competitiveness in clinical research, regulation, evaluation, and adoption.

Collaboration and stakeholder engagement

The MHRA engages with industry regularly on matters of regulation and guidance, and its approach to this is highly appreciated. In particular, the application of this flexible, collaborative approach to overcome substantial challenges throughout the pandemic was critical.

The ABPI welcomes the commitment of the government to consult thoroughly with industry ahead of any new regulations created via the MMDA. This could be formalised through the expansion of the remit and scope of the Medicines Industry Liaison Group to include representatives from partner organisations including the HRA, NICE, NHS England and NHS Digital.

Collaboration across government will also become increasingly important as the UK embarks on the next stage of its global journey, along with its economic recovery post pandemic. In light of the publication of the Life Sciences Vision, and with the sector identified as critical in the government's 'Build Back Better' growth plan, the interests of the life science industry will become increasingly intertwined with other departments, including DIT, the Foreign, Commonwealth and Development Office (FCDO) and Her Majesty's (HM) Treasury.

This presents an opportunity to improve collaboration across the government as a whole, with cross-government collaboration ensuring incentives and policy are suitably aligned and optimised.

Box 5: Spain – BEST project

Launched as a partnership between industry, regulators, and the government in 2006, the BEST project is Spain's strategic programme for making the country an attractive location for clinical research. It focuses on overcoming delays in regulatory processes that inhibit clinical trial launch[40].

A key part of the project has been to promote cross-working between regulators, industry, and the health system, taking a pragmatic approach to determining what causes regulatory delays and overcoming them collaboratively. Success has been based on rigorous collection and analysis of operational data and subsequently taking a flexible approach to the implementation of regulatory requirements, adapting operational practices to increase efficiency.

As a result, Spain is now seen by the global pharmaceutical sector as an attractive location to conduct R&D. Regulatory approval, patient recruitment and site selection timelines are some of the most competitive in Europe, but more importantly, the system provides industry with a greater ease of doing business and solving problems when they arise.[41]

Recommendation:

- Expansion of the work of the Medicines Industry Liaison Group would help facilitate close collaboration on the direction of the UK's regulatory framework, such that it reflects how companies work and where science is leading life sciences innovation. This should include a formal role in shaping the framework and methodology by which the government and the MHRA measure the favourability of regulatory change with regard to conducting clinical research and manufacturing and supplying medicines.

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