



مجلس الأعمال الإماراتية البريطانية
UAE - UK Business Council

Opportunities for UK-UAE Collaboration in AI in Healthcare



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1 | Introduction



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The trade and investment relationship between the UAE and the UK is now worth £23.8bn (AED 120bn) a year. The UAE is the UK's 19th biggest trading partner and its 12th largest export market. The sharing of expertise in AI in healthcare will be a key driver of future growth in the trade relationship and will offer substantial new opportunities for commercial collaboration between the two countries.

The UK and the UAE share a strong ambition to modernise their respective healthcare systems and can leverage their respective strengths to accelerate the adoption of AI-driven healthcare through commercial collaboration. However, to fully realise the potential benefits of this, regulatory barriers that hinder such collaboration will need to be addressed.

The UK and the UAE both have a strong track record in driving innovation, harnessing the power of data and investing in precision medicine and genomics. Optimising the data relationship between the two countries will allow operational and technological sovereignty to converge, creating the optimal environment for patient and research data to be shared between experts and practitioners.

The recommendations made in this report are intended to help foster a stronger partnership in AI in healthcare between the UAE and the UK over the years ahead. The UAE-UK Business Council will work alongside the organisations who have kindly contributed to this report to deliver these recommendations. ●

2 | Executive Summary

AI will arguably transform healthcare more than any other industry. The UK's regulatory expertise and research capabilities combined with the UAE's investment in innovation and population-specific data creates a powerful opportunity for developing new partnerships.

This Paper is for policymakers, businesses, trade associations, academic institutions, investors, entrepreneurs, healthcare and technology professionals and other organisations working in the life sciences and AI sectors in both the UK and the UAE. It is the culmination of several round table and online discussions convened by the UAE-UK Business Council.

The aim of the Paper is to explore future opportunities for UK-UAE collaboration in AI in healthcare, and to identify market access barriers that need to be addressed in order for this collaboration to happen. The recommendations at the end of this Paper are designed with these two objectives in mind and are intended for policy makers, businesses, academia and investors to deliver on.

Data and regulation remain central to the successful adoption of AI in healthcare in the UK and the UAE. Potential barriers to collaboration centre around data interoperability, ownership and accessibility, with fragmented platforms and siloed datasets limiting the full potential of AI-driven technologies to be realised. In the UK, interoperability is already effectively

mandated through the major framework agreements and NHS standards that have been introduced in recent years. New legislation such as the Data Use and Access Act provides an additional legal context for supporting such interoperability, while the UAE continues to advance integration through initiatives such as Malaffi¹ and Riayati².

There will be substantial growth in the number of data centres operating in the UAE over the next few years and, in parallel, an increased capacity to utilise data to drive innovation in life sciences. A Data Adequacy Agreement, along with shared UK-UAE protocols in relation to data, operational and technological sovereignty, will help to optimise the potential for collaboration between the two countries in data-driven healthcare. Flexible and agile regulatory frameworks in both markets that evolve with technology, that support international data governance standards and that build public trust through transparency and scalable consent mechanisms will help to accelerate the safe deployment of AI solutions in healthcare in the two countries. The UK and the UAE could also share insights on post-market surveillance, enabling operators of commercial AI systems to catch biases and other unforeseen features that only become apparent after such systems are operationalised.

Precision medicine and multiomics represent a key area of opportunity for UK-UAE collaboration. Both countries are advancing large-scale genomic programmes through the UK and Abu Dhabi Biobanks and the Emirati Genome Project, which offer rich datasets that can be utilised for precision medicine. Data standardisation and cleaning are necessary to ensure that genomic information can be effectively leveraged by AI technologies for diagnosis and targeted treatment. The UK's experience in clinical trials and the regulatory frameworks that support them offers a valuable model for the UAE, which has the potential to contribute significantly to global research by sequencing underrepresented Arab genomes.

Barriers that could hinder collaboration include limited data sharing due to commercial interests and IP protection, a lack of harmonised governance frameworks and insufficient infrastructure to support real-world deployment of healthcare solutions. By enabling cross-border research partnerships and data sharing, and aligning their respective approaches to regulation, the UK and the UAE will be able to scale up and accelerate the commercialisation of genomic AI applications to improve patient outcomes.

The UK's experience in building regulatory frameworks around anonymised health data provides a model for responsible innovation. In parallel, the UAE's growing biotech infrastructure, supported by initiatives such as the HELM cluster, launched in Abu Dhabi in 2025, is helping to position the country to become a regional and global leader in AI-centred healthcare.

Responsible and ethical AI in healthcare will become increasingly important over the years ahead, and this presents a strong opportunity for collaboration between the UK and the UAE, given the global leadership both countries have shown in this area so far. In the UK, Responsible AI UK³ aims to shape global best practice in designing, evaluating, regulating and operating AI systems in ways that benefit people and society. The UAE's Ministry of AI published a White Paper in 2023 emphasising the need for a global ethical code, with transparency, explainability and inclusivity as key pillars for building trust and ensuring the responsible deployment of AI technologies around the world⁴. The recent launch of the Responsible AI Future Foundation by G42 and Microsoft provides a platform for UK-UAE engagement in promoting responsible and inclusive AI research, implementation and governance⁵.

The recommendations made in this paper for fostering collaboration between the UK and the UAE in AI in healthcare can be found in Section 9. ●

¹ Malaffi is the region's first Health Information Exchange platform, which safely and securely connects public and private healthcare providers in the Emirate of Abu Dhabi - [MALAFFI | About Malaffi](#)

² Riayati is a state-of-the-art platform to improve patient healthcare experience in the UAE through a centralised and integrated healthcare system - [Riayati | Ministry of Health and Prevention - UAE](#)

³ Home - Responsible AI

⁴ <https://ai.gov.ae/wp-content/uploads/2025/01/Towards-a-Future-of-Responsible-AI-EN-White-Paper.pdf>

⁵ <https://www.g42.ai/resources/news/g42-and-microsoft-launch-responsible-ai-foundation>

3 | The UAE-UK Business Council

The UAE-UK Business Council is a thought leadership forum that brings together senior business leaders, entrepreneurs, academics, government representatives and other stakeholders from both countries to identify new and emerging opportunities for collaboration and help to resolve barriers to trade and investment between the UAE and the UK.

It works in partnership with the UAE and the UK Governments, providing strategic advice on the interests and concerns of its member companies and the wider business community. In addition, it runs thematic campaigns, hosts events and produces white papers. It is funded entirely by its members and is supported by a Joint Secretariat based in both countries.

The UAE-UK Business Council is registered in the UK as a Not-For-Profit Company Limited by Guarantee and is guided in its work by a high-level Advisory Committee and a Governance Committee, as well as by its two Co-Chairs, HE Ahmed Al Sayegh and Rt Hon Lord Udney-Lister. ●

4 | UK Approach to AI in Healthcare

4.1 | AI Opportunities Action Plan

In January 2025, the UK Government launched the ‘AI Opportunities Action Plan’, outlining its strategy to harness AI as a key driver for economic growth, job creation and enhanced public services. The Plan sets out how the UK can leverage its existing strengths in AI research and development, talent and innovation in order to remain globally competitive. It provides a strategic blueprint to accelerate AI adoption, through foundational investments in data infrastructure, computing capacity and talent development. It proposes building a National Data Library and unlocking public and private sector data assets, including NHS data, to enhance diagnostics, treatment and service efficiency. In parallel, the Plan safeguards data privacy and accountability, along with governance frameworks which will need to be remodelled to adapt to the likely surge in AI utilisation as it is implemented.

The Plan aims to foster collaboration between the public and private sectors, and to ensure that AI contributes to “shared economic prosperity, improved public services and an enhanced quality of life for UK citizens”⁶.

While the Plan does not specifically refer to healthcare, some of the key proposals include:

- Expanding government-controlled AI computing capacity by at least twenty-fold by 2030.
- Launching “AI Growth Zones” beginning with Culham, Oxfordshire, to streamline planning and secure energy for data centres.
- Establishing a National Data Library (NDL) to responsibly unlock public sector datasets - potentially including the NHS Federated Data Platform (see Section 6.8) and encourage private data sharing.
- Introducing privacy-preserving synthetic datasets and encouraging controlled release of high-impact data assets.
- Training of tens of thousands more AI professionals by 2030, through university support, scholarships, and apprenticeships.
- Promoting workforce diversity, acknowledging current low female enrolment in computing-related careers.
- Supporting the UK AI Safety Institute (AISi) review of IP and text/data mining rules and encouraging regulator-led AI sandboxes.

⁶ AI Opportunities Action Plan - GOV.UK



- Backing investments in robotics, scientific AI and frontier technologies with direct government support.
- Collaborating with allied nations to share computing resources for research and resilience.
- Establishing a pipeline of new data centres in Wales, Essex, Liverpool, Docklands and Crawley.

4.2 | Fit For The Future: The 10-Year Health Plan for England

The 10-Year Health Plan for England (2025) describes three major shifts: moving care from hospitals to community settings through neighbourhood health hubs, accelerating the digital transformation of the NHS and shifting focus from sickness to prevention, in order to extend healthy life expectancy and reduce inequalities.

To deliver this, the Plan proposes a new NHS operating model, greater workforce flexibility, investment in AI, genomics and innovation, and a shift toward value-based funding. Some of the key points of the Plan are:

- **Data:** A new Health Data Research Service will be set up in partnership with the Wellcome Trust.
- **AI:** Make the NHS the most AI-enabled healthcare system in the world with AI seamlessly integrated into clinical pathways.
- **Genomics:** Sequence genomes of 100,000 babies and 150,000 adults for preventative measures.
- **Wearables:** To be made standard in preventive, chronic and post-acute NHS treatment by 2035.
- **Robotics:** Expand surgical robot adoption in line with National Institute for Health and Care Excellence (NICE) guidelines⁷.

4.3 | The UK Life Sciences Sector Plan

Launched in July 2025, the UK Life Sciences Sector Plan sets out an ambition to make the UK Europe's leading life sciences economy by 2030 and the world's third by 2035. The strategy is built around three pillars:

- **R&D and Data:** Up to £600m for a Health Data Research Service integrating genomics, diagnostics and clinical records, alongside major investment in Genomics England, "Our Future Health" and the UK Biobank.
- **Business Growth:** £520m for the Life Sciences Innovative Manufacturing Fund and £4bn in growth capital via the British Business Bank to scale firms and attract private investment.
- **Health Innovation & NHS Reform:** Faster clinical trials (target: under 150 days by 2026), digital transformation of the MHRA (Medicines and Healthcare products Regulatory Agency), streamlined AI and MedTech regulation and the creation of regional Health Innovation Zones.

4.4 | The UK Health Security Agency

The UK Health Security Agency (UKHSA) is piloting cutting-edge AI applications to enhance disease surveillance, public health research and guidance accuracy, while ensuring rigorous validation and human oversight.

Key Projects include:

- **AI Enhanced Patient Experience Analysis:** Large Language Models (LLMs) extract insights from qualitative surveys.
- **Foodborne Illness Surveillance:** LLMs process thousands of online reviews to detect gastrointestinal symptoms linked to food types.

⁷ Fit for the future: 10 Year Health Plan for England - executive summary (accessible version) - GOV.UK

- **Guidance Consistency Checker:** Secure LLMs scan draft public health documents, cross-referencing existing UKHSA guidance to flag conflicting advice.

4.5 | UK Government Funding into AI-Driven Cancer Care

In February 2025, the UK Government announced £82.6m in funding to support AI-driven cancer care, drug discovery and high-performance computing. Three projects will benefit from this funding through the Research Ventures Catalyst (RVC) programme:

- **PharosAI (£43.6m):** Led by King's College London and NHS partners, PharosAI aims to create a secure AI platform to analyse NHS and Biobank data for accelerating cancer diagnostics and treatments.
- **Bind Research (£25.8m):** Utilises AI to target disordered proteins and make previously undruggable diseases treatable with a novel not-for-profit research model.
- **MEMetic (£13.2m):** Develops bioinspired filtration membranes for water management and environmental sustainability.

Additionally, £7.8m will support UK participation in the EuroHPC (European High Performance Computing Joint Undertaking) initiative, boosting international collaboration on AI and computing. These investments form part of the UK's broader "Plan for Change" strategy to drive growth through digital and scientific innovation in healthcare and beyond⁸. ●

5 | UAE Approach to AI in Healthcare

5.1 | UAE National Strategy for AI 2031

The UAE's National AI Strategy aims to position the country as a global leader in artificial intelligence by 2031, aligning with its broader UAE Centennial 2071 goals. The strategy aims to enhance competitiveness, talent development, governance, infrastructure and international collaboration.

Key initiatives include the development of regulatory frameworks, ethical AI governance, AI training programmes for citizens and public officials and the establishment of a National Virtual AI Institute. The Government will also support public-private partnerships, pilot projects and incentives for domestic and foreign AI firms.

The strategy aims to address challenges such as data silos, regulatory gaps and skills shortages, serving as both a national transformation tool and a model for international engagement on AI⁹.

5.2 | Abu Dhabi Government Digital Strategy 2025-2027

Led by the Department of Government Enablement, the strategy, backed by AED 13bn (£2.5bn) of investment, aims to digitise and automate 100% of government processes and services, supported by sovereign cloud infrastructure and a unified digital enterprise resource planning (ERP) platform by 2027.

Under the "AI for All" programme, the plan includes upskilling citizens in AI competencies and deploying over 200 AI-driven solutions across public services. The strategy projects economic benefits of over AED 24bn (£4.7bn) added to GDP by 2027, and the creation of over 5,000 high-skilled jobs, supporting the country's Emiratisation goals.

Key partnerships underpinning this strategy include collaborations with Mohamed bin Zayed University of AI (MBZUAI), the Advanced Technology Research Council (ATRC), technology firm G42 and global partners such as Microsoft. The initiative also embeds strong cybersecurity and regulatory frameworks to ensure data protection and service reliability¹⁰.

⁸ UK-backed AI companies to transform British cancer care and spark new drug breakthroughs - GOV.UK

⁹ UAE Strategy for Artificial Intelligence | The Official Portal of the UAE Government

¹⁰ Abu Dhabi launches Dh13-billion strategy to become world's first 'fully AI-native govt' by 2027 | Khaleej Times



5.3 | Stargate UAE

The Stargate UAE project represents the first international deployment of OpenAI's global AI infrastructure initiative and is set to deliver one of the world's largest compute campuses, spanning 10 square miles with a 5 gigawatt capacity. The initial phase - a 1 gigawatt compute cluster jointly operated by OpenAI and Oracle and built by G42 - will come online by 2026. Stargate will position Abu Dhabi as a critical AI hub with compute infrastructure powerful enough to serve regions within a 2,000 mile radius, potentially reaching half the world's population. Plans include offering nationwide ChatGPT access to every UAE resident, with premium ChatGPT Plus subscriptions available to those working in sectors such as healthcare, education and government services¹¹. ●

6 | AI and Healthcare Data

Some of the barriers that might impede the optimisation of AI in healthcare are the lack of harmonised data standards between the jurisdictions of the UK and the UAE (the UAE has adopted fast healthcare interoperability resources (FHIR) coding standards, which ensure the secure and consistent exchange of electronic health information using standard coding systems and terminology). Additionally, within sub-national entities (such as regional health authorities), fragmented access to anonymised patient data, the absence of coherent and interoperable frameworks, and the lack of secure data-sharing agreements continue to hinder the integration of AI into the healthcare systems of both countries. There is also a need to ensure that the regulatory frameworks are designed in such a way that they do not lag behind the deployment of these technologies.

6.1 | Data and Regulation

A data environment that enables more advanced testing and diagnostics, predictive analytics and precision medicine is necessary to optimise the value that AI can bring to the healthcare sector. Regulation must be designed to ensure that commercial development of new technologies is not stymied, and that AI tools used in the healthcare sector meet the standards required for safety, data protection and privacy and clinical efficacy.

The UK has established regulatory frameworks such as the General Data Protection Regulation (GDPR) and the Data Use and Access Act (DUAA) which will help to define data protection standards and alleviate interoperability barriers between UK healthcare providers and information platforms. Regulators, such as the MHRA (Medicines and Healthcare

¹¹ Stargate UAE: OpenAI to build world's largest AI data centre in Abu Dhabi

¹² Abu Dhabi implements clinical AI model into healthcare ecosystem

products Regulatory Agency), ensure that AI technologies undergo thorough validation before their deployment and commercialisation, protecting patients and giving innovators the regulatory clarity needed to bring AI solutions to market.

In the UAE, Abu Dhabi's Department of Health has issued guidelines for the use of AI in clinical care settings, and Dubai Health Authority (DHA) is piloting AI in diagnostics and medical record systems.

As part of its ongoing digital transformation, Abu Dhabi Department of Health is streamlining clinical decision-making by utilising M42's Clinical large language model (LLM) as an AI assistant for healthcare professionals. Potential applications include developing personalised treatment plans and facilitating faster access to relevant medical information for doctors. Additionally, the model supports medical researchers in reviewing literature and journals more efficiently¹². The UAE should share its expertise with the UK on LLM utilisation so that it can be applied more widely within the UK healthcare system.

Since AI technology is still evolving, there are likely to be challenges as its deployment across the healthcare sector expands over the years ahead. These could include unintended algorithmic bias, diagnostic inaccuracies and health data misuse. Robust regulation in both the UK and the UAE can help to build public trust and ensure organisational accountability, whilst providing a safe and equitable environment to scale AI solutions. Knowledge sharing on addressing such issues will improve the delivery of safe, reliable and precise healthcare in the UK and the UAE. Such bilateral exchanges can also help to ensure that regulation does not lag behind technological advancements and remains agile enough to support scalable deployment.

6.2 | Post Market Surveillance

The UK's updated post-market surveillance (PMS) requirements for medical devices, effective from June 2025, mandates manufacturers to implement risk-based PMS plans, proactively monitor device performance and report serious incidents to the MHRA within 15 days. Operators of high-risk devices must submit regular Periodic Safety Update Reports (PSURs), while even low-risk devices require PMS summary reports. The new regulations also introduce trend reporting, mandatory field safety corrective actions (FSCAs) and explicitly include cybersecurity risks under PMS obligations. These changes aim to enhance patient safety, enable faster issue resolution and ensure continuous real-world monitoring across the medical device lifecycle¹³.

In the UAE, post-market surveillance of medical devices is primarily overseen by the Ministry of Health and Prevention (MOHAP), which ensures that national safety, efficacy and quality standards are upheld. In Dubai, the Dubai Health Authority implements additional inspection protocols and licensing requirements to maintain equipment integrity throughout its lifecycle¹⁴.

The UK and the UAE should share knowledge on ensuring that post-market surveillance keeps pace with the evolution of new AI solutions in the healthcare sector.

6.3 | Data Adequacy

A Data Adequacy Agreement between the UK and the UAE would help to advance collaboration in AI in healthcare, as it would enable secure, lawful, and efficient cross-border data sharing. Such an Agreement would support joint research, improve AI model accuracy using more diverse and sophisticated datasets and accelerate the development of precision medicine and diagnostics.

The UK-EU Data Adequacy Agreement, which came into effect in 2021 and will continue in its current form until December 2025 (although discussions are ongoing to extend it to 2031), illustrates the benefits that such an Agreement could offer to the healthcare sector if applied between the UK and the UAE. The Agreement allows for free data flow between the two jurisdictions, equivalency of data protection, continuity of access for the NHS to data from EU partners, and the ability to transfer data between the two jurisdictions on GDPR terms¹⁵.

The UAE's Personal Data Protection Law (PDPL), effective since 2022, governs how personal data, including health data, is collected, processed, and transferred. Whilst PDPL outlines a legal framework aligned with the EU's GDPR, the UAE has yet to publish an official adequacy list, meaning cross-border transfers to the UK currently require standard contractual clauses, binding corporate rules, or explicit patient consent¹⁶.

¹³ What is next for medical devices? New post-market surveillance obligations and beyond... | Hill Dickinson

¹⁴ Medical Device Quality Assurance in UAE: Regulations & Compliance

¹⁵ Data protection adequacy for non-EU countries

¹⁶ UAE Data Protection and Cross-Border Data Transfer

6.4 | The UK Data (Use and Access) Act 2025 (DUAA)

The UK's Data (Use and Access) Act 2025 introduced pivotal reforms with direct relevance to the healthcare sector. It amends the UK GDPR and UK Data Protection Act to streamline data use for scientific and clinical research by broadening the definition of "scientific research" to include commercial and public health studies.

A major innovation is the introduction of a new lawful basis - "Recognised Legitimate Interests" - which allows non-public bodies (including healthcare researchers and AI medical developers) to process personal data for public interest purposes (such as genomic research or pandemic response) without needing a full balancing test, while preserving essential safeguards for special category data such as health records. The Act also enables the use of "smart data schemes", permitting authorised sharing of clinical and research datasets across the public and private sectors to enhance interoperability and reduce data silos - an important step for linking NHS genomic and UAE health information exchange platforms for multinational collaboration. Additionally, the Act relaxes previous restrictions on automated decision-making, permitting such decision-making in more use cases, except where it involves fully automated decisions based solely on sensitive data without human oversight. This will create new pathways for clinical AI deployment and decision-support tools, especially in genomics, diagnostics, and patient stratification¹⁷.

6.5 | Sandboxes and Procurement Reform

Sandboxes are controlled environments designed to test novel technologies under regulatory supervision. An AI-specific sandbox can provide a testing environment where developers test AI models, algorithms and APIs (Application Programming Interfaces) using limited and approved datasets¹⁸.

The adoption and commercialisation of AI and its tools will require a streamlined process for the private sector to access and utilise patient health data, with a sandbox environment for the safe testing of AI tools. The UK and the UAE could benefit from the creation of joint AI sandbox environments, although consideration would need to be given to what volume of data, and what type of data, would be needed to make such a sandbox effective. In addition, if the sandbox aimed to facilitate overseas access to NHS data, such data would have to be anonymised.

6.6 | The UK's AI Airlock

The UK's MHRA AI Airlock was launched in 2024 and is the MHRA's first regulatory sandbox for medical devices utilising AI. The project will enhance the understanding of and accelerate solutions to novel regulatory challenges for such medical devices.

Using real-world products, the AI Airlock will bring together expertise from within the MHRA and key partners including the UK Approved Bodies, the NHS and other regulators. The outputs will inform subsequent AI Airlock phases in the short term, and future MHRA guidance and policy in the longer term, while exploring any limitations of existing approaches to demonstrating regulatory compliance¹⁹.

6.7 | The UAE's Health Data Repository and Disease Registry

The Ministry of Health and Prevention launched the Health Data Repository Project and the national disease registration system in 2022. The national disease registration system is intended to monitor, record and analyse patient data at a comprehensive national level for the most prevalent diseases in the UAE.

The first step involves developing a disease registry system by creating digital dashboards for various health indicators. The next step entails automation of the process of issuing reports to ensure improved data quality and reduction in the time required to execute these tasks²⁰.

6.8 | Interoperability

Achieving interoperability within AI-driven healthcare is challenging due to inconsistencies within data standards, fragmented communication systems and platforms, varying regulations between jurisdictions and organisations working in silos. However, efforts are being made in the UK and the UAE to unify data access and procurement, implement more flexible legislation and overcome regulatory complexities.

¹⁷ Data (Use and Access) Act 2025

¹⁸ AI innovation in the UAE: Strategic use of AI-specific regulatory sandboxes - ORF Middle East

¹⁹ AI Airlock: the regulatory sandbox for AIaMD - GOV.UK

²⁰ Regulatory sandboxes in the UAE | The Official Portal of the UAE Government

One example is the NHS Federated Data Platform (NHS FDP), which enables NHS organisations to bring together operational data – currently stored in separate systems – to support staff to access information in one safe and secure environment. By streamlining access for healthcare professionals, this reduces the need for multiple logins, resulting in faster, more coordinated care, increased patient choice and improved health outcomes. A digitised, connected NHS, using such interoperable platforms, is able to deliver patient-centred services more effectively and efficiently²¹.

In the UAE, there are public and private healthcare providers utilising different systems, which has the potential to limit interoperability. However, new initiatives have been introduced to address this challenge. Health Information Exchange (HIE) platforms such as Nabidh in Dubai and Malaffi in Abu Dhabi play a crucial role in the UAE's healthcare system by enabling secure, real-time access to patient health records across the different public and private providers. These platforms also keep health data centralised and standardised, helping to overcome data silos, improve the coordination of care and enhance clinical decision-making, making these platforms vital enablers for the integration of AI into healthcare systems.

Through research collaborations and knowledge sharing, the UK and the UAE can share examples of best practice to improve existing platforms and introduce new systems to help create the robust foundational infrastructure needed for training, validating and deploying AI and its tools at scale. Additionally, such partnerships can help to address interoperability issues within the fragmented healthcare ecosystems in both countries. This can help to allow AI models to function more efficiently across different institutions, improving diagnostic accuracy, precision medicine and population health management.

The integration of AI requires systemic and organisational interoperability ranging from standardising clinical terminology to connecting disparate health systems. Interoperability challenges can hinder AI deployment and are best addressed through stakeholder alignment and technical innovation. The UK and the UAE should share knowledge on how to overcome fragmented provision of healthcare by co-developing solutions with vendors and ensuring that healthcare providers are equipped to engage with innovators earlier in the development cycle, thereby strengthening interoperability frameworks across HIE platforms.

6.9 | Building Confidence Among Clinicians and Patients

There would be value in practitioners in the UK and the UAE sharing their expertise in developing cultural readiness and receptiveness to AI in the healthcare workplace. Clinical reluctance to adopt AI can often be due to concerns around accuracy, control and disruption to care workflows as well as individual fears for job security. Healthcare institutions will need to embrace AI not just as a clinical tool, but also as a tool for indirect care and administrative optimisation, such as for transcribing consultations or drafting multilingual consent forms. Building confidence by focusing initially on using AI for non-clinical uses will help build trust for later stages of AI adoption when it is used directly for patient facing applications. Patients will need to be fully engaged and aware of how AI can help to optimise their healthcare provision, so that they can give full consent to the AI-enabled medical provision they receive. Transparent data practices and education will be an important step in engaging patients and mainstreaming AI adoption into healthcare systems.

6.10 | Attracting Talent

Attracting skilled professionals in AI, data science and software engineering is essential to ensure the effective deployment, scaling and commercialisation of AI tools within the healthcare systems of both countries. All healthcare staff will need to have access to AI training, and this training should not be weighted towards prioritising senior practitioners and executives.

In the UK, The Turing AI Fellowships is a £46m initiative aimed at retaining, attracting and developing international AI researchers. Turing AI Fellows will undertake creative and innovative AI research, working in collaboration with partners from other sectors to accelerate the impact of their research²².

In the UAE, The Global AI Healthcare Academy aims to prepare an AI-trained workforce that supports diagnostic and operational efficiency, significantly improving the health and wellbeing of the community. The healthcare professionals participate in training sessions covering vital subjects, such as AI for radiology, cardiology and more advanced data analytics and prediction techniques. This includes educational courses designed for both senior executives and operational staff within the healthcare ecosystem. Both countries are fostering cross-sector collaboration to strengthen their AI healthcare ecosystems^{23 24}.

²¹ NHS England » Learn about the NHS Federated Data Platform

²² Turing Artificial Intelligence Fellowships - GOV.UK

²³ Global AI Healthcare Academy in Abu Dhabi enhances AI skills of 3,750 healthcare professionals

²⁴ NHS Fellowship in Clinical AI | CSC



6.11 | Clinician and Patient Advocacy

Clinician and patient advocacy groups play a vital role in building trust in AI-enabled healthcare by ensuring tools are safe, patient-centred and ethically applied. In the UK, professional bodies like the Royal College of Radiologists have supported AI adoption through clinical validation and guidelines, enhancing uptake in areas such as stroke and cancer care. In the UAE, the Department of Health Abu Dhabi has engaged stakeholders in shaping AI policies and health data platforms like Malaffi, with a focus on transparency and consent. Their involvement ensures AI is aligned with patient needs and boosts confidence in its use across healthcare systems²⁵.

6.12 | Global Declaration on AI Governance Principles

The Abu Dhabi Department of Health launched the Global Declaration on AI Governance Principles in Healthcare during Abu Dhabi Global Health Week 2025. The Declaration sets out principles for developing a unified, ethical and people-centred approach to AI integration in health systems. Key themes include data standardisation, privacy, trust, skills development and transparent testing frameworks. The initiative builds on Abu Dhabi's growing AI ecosystem, supported by platforms such as Malaffi and the Global AI Healthcare Academy, aiming to establish global best practice and ensure safe, inclusive and impactful AI deployment in healthcare²⁶.

Abu Dhabi's Health, Endurance, Longevity, and Medicine (HELM) cluster, launched in 2025, aims to build an ecosystem that integrates AI with genomics, precision medicine and pharmaceutical innovation. It will also aim to combine local R&D capabilities with foreign investment and international partnerships.

7 | AI and Precision Medicine and Genomics

Precision medicine - tailoring healthcare based on individual genetic, environmental and lifestyle factors - is increasingly being enabled by AI-driven insights derived primarily from large-scale genomic datasets. Both the UK and the UAE recognise the transformative potential of this approach to improve disease prevention, diagnoses and treatment.

7.1 | The UK Biobank

The UK Biobank has pioneered the collection and application of genomic data to support clinical and research purposes, creating the opportunity for AI to drive personalised healthcare solutions. It is a major biomedical resource that holds de-identified genetic, lifestyle and health data and biological samples from 500,000 participants across the UK. As one of the most extensive and widely used datasets of its kind, it is available to approved researchers worldwide conducting health-focused research in the public interest across academic, commercial, governmental and non-profit sectors²⁷.

²⁵ Our specialties | The Royal College of Radiologists

²⁶ News | Department of Health - Abu Dhabi

²⁷ UK Biobank - UK Biobank

The sharing of expertise between the UK Biobank and the Abu Dhabi Biobank has enabled both organisations to evolve and respond to the rapidly growing capabilities of new AI technologies.

7.2 | The Emirati Genome Programme

The Emirati Genome Programme is a national project which aims to use genomic data to improve the health of the Emirati population. The project involves scientific study and research aimed at profiling and determining the gene sequencing among UAE citizens to aid in the prevention and treatment of chronic diseases.

The programme will enable healthcare practitioners to provide advanced diagnoses, treatment options and personalised and preventive programmes tailored to an individual's unique genetic makeup, aiding better prediction and prevention of present and future genetic diseases. The UAE will use the genomic data to develop healthcare strategies that address the population's specific needs and support the advancement of preventive medicine in the country²⁸.

7.3 | NHS Genomic Medicine Service (GMS)

NHS England is leading the integration of genomics into routine healthcare as part of the NHS Long Term Plan, aiming to become the first national system to offer whole genome sequencing widely. Key goals include sequencing 500,000 genomes, expanding molecular diagnostics for cancer, improving early detection of genetic conditions and linking genomic data to advance personalised medicine.

These aims are being delivered through the NHS Genomic Medicine Service (GMS), which provides consistent national care, standardised testing and access to genomic research. Genomic applications are expected to accelerate rare disease diagnosis, tailor treatments to individuals and improve cancer survival rates through early, accurate diagnosis.

Workforce development is supported by tailored training for nurses, pharmacists and doctors, while the Genomics Clinical Reference Group advises on clinical strategy and policy. Public and patient involvement is central, with opportunities for individuals to shape genomic services through forums, consultations and outreach²⁹. Genomics England focuses on developing analytical and IT systems that support the NHS to sequence whole genomes from patients (and their family members) with common cancers and rare diseases. The data generated provides clinicians with more accuracy in diagnosing medical conditions and allows them to target therapies more precisely to their patients³⁰.

7.4 | Collaboration in Biobanks and Genomic Infrastructure

The UK's experience in navigating the clinical-to-commercial pipeline using genomic data, facilitated by organisations such as Genomics England, NHS Genomic Medicine Service (GMS) and other NHS-supported initiatives, can provide useful learnings as the UAE builds its own AI healthcare solutions. With the UAE's centralised healthcare system, investment capabilities and resources, it is well-placed to sequence the genomes of its entire national population, generating valuable data for rare disease research and broader precision medicine applications.

Collaboration between the UK and the UAE on biobanks is mutually beneficial - the UK offers extensive expertise in genomics research and regulatory frameworks, while the UAE provides a dynamic environment for innovation, investment and population-specific data. Strategic alignment on data governance, interoperability and shared research agendas will help to accelerate the translation of genomic insights into real-world healthcare improvements and unlock opportunities for bilateral collaboration.

7.5 | Digital Infrastructure and Integration

In the UAE, Malaffi, Abu Dhabi's Health Information Exchange (HIE), has completed a new integration phase with the federal HIE platform Riayati, in partnership with the Ministry of Health and Prevention. This advancement allows Malaffi users to access patient data from the Northern Emirates, enhancing continuity of care and supporting the UAE's digital health transformation across the entire country. Following initial integration of the three national HIEs – Malaffi, Riayati and Nabidh - this milestone strengthens nationwide interoperability. The Riayati platform has so far included 1.9 billion medical records for 9.5 million patients, which can be accessed by over 90,000 health service providers in 3,057 medical facilities,

²⁸ The Emirati Genome Programme | The Official Portal of the UAE Government

²⁹ NHS England » NHS Genomic Medicine Service

³⁰ Genomic Medicine | Genomics England

with future plans to expand access further through unified federal data sharing. Malaffi provides easier access to medical records, which helps healthcare professionals to save the time and trouble of transferring previous medical records and avoid asking patients to undergo the same tests repeatedly³¹.

7.6 | Clinical Capacity, Innovation and Drug Development

AI has shown significant promise in transforming drug development by reducing costs, improving trial success rates and accelerating timelines. It can help to predict the success of drug candidates in phase II and III clinical trials, assist with report writing and reduce the incidence of adverse side effects through early modelling. Precision medicine initiatives powered by omics can be strengthened through machine learning platforms designed to identify targets and optimise therapies. The UK and the UAE can work together to ensure that the data used in drug development is clinically validated and addresses the risk of ‘AI-washing’ by companies through standardised evaluation, criteria and regulatory oversight.

One of the main barriers to innovation is the limited capacity within hospitals to absorb new technologies. Clinicians and data professionals are often pulled away from patient care to support innovation, creating a trade-off that healthcare systems struggle to manage. Institutions like Great Ormond Street Hospital for Children have a dedicated unit: DRIVE (Data Research, Innovation and Virtual Environments) to build digital innovation environments for rare disease data.

Case Study 1: Great Ormond Street Hospital - *Novel artificial intelligence pipelines using whole genome sequencing data to improve risk stratification in children and adults with acute lymphoblastic leukaemia*

Building on the foundation of the 100,000 Genomes Project, NHS England has established a world-leading Genomic Medicine Service. Through a public-private partnership with Genomics England, whole genome sequencing is now routinely implemented for clinical use, while also generating a vast genomic research library that supports both academia and industry.

Great Ormond Street Hospital for Children (GOSH) has been at the forefront of this transformation, introducing clinically applicable whole genome sequencing for all children with suspected cancer. Working with Genomics England, GOSH has developed a novel AI pipeline to analyse DNA and design patient-specific tests for children with acute lymphoblastic leukaemia (ALL). These tests are used to detect minimal residual disease (MRD) – the small number of cancer cells that remain after treatment and are often invisible to standard diagnostics. Identifying MRD is critical for accurate risk assessment, relapse prediction and personalised therapy.

The AI model, built on random forest machine learning, creates highly sensitive MRD assays. GOSH has shown that this approach matches the performance of current state-of-the-art tests, while offering an additional advantage: the ability to identify new, clinically relevant targets for personalised patient assays.

Beyond improving accuracy, the AI-driven process dramatically increases efficiency. Automated annotation and primer panel design halve the labour time required, and because the system can work with targets identified by any sequencing method, it avoids the need for expensive, specialised MRD discovery assays. This innovation makes advanced genomic testing more cost-effective and scalable. The benefits extend beyond individual patients. Embedding AI into routine workflows enables both cutting-edge clinical practice and new avenues for research, positioning GOSH as a leader in translating genomic science into real-world healthcare. This model illustrates how AI can enhance precision medicine, improve outcomes, and reduce costs, while laying the groundwork for future clinical trials and discoveries.

Case Study 2: University of Cambridge - *‘AI scientist’ suggests combinations of widely available non-cancer drugs can kill cancer cells*

A team at the University of Cambridge has demonstrated a novel method of drug discovery using GPT-4, a large language model (LLM), to suggest combinations of safe, affordable, non-cancer drugs (for example those used for high cholesterol or alcohol dependence) that might kill breast cancer cells while sparing healthy ones.

Researchers instructed GPT-4 to avoid standard chemotherapy agents, focus on regulatory-approved drugs and minimise harm to healthy cells. From an initial list of 12 drug combinations proposed by GPT-4, lab tests found three combinations

³¹ UAE Health Authorities announce successful integration between “Riayati”, “Malaffi”, and “Nabidh” | Ministry of Health and Prevention - UAE



that outperformed existing breast cancer drugs on a breast cancer cell line. Following this, the model was refined based on these results, generating a further four combinations, three of which also showed promising cancer-killing activity.

Notable drug pairs include simvastatin and disulfiram among others. These findings derive from a closed-loop experimental design: AI suggests hypotheses, human scientists test them, then results feed back to the model to improve subsequent suggestions. While the results are early and in vitro, they suggest potential for drug repurposing and accelerating discovery by focusing on overlooked synergies in existing medications³².

Case Study 3: M42 - AI Radiology in Screening TB (AIRIS-TB) – Automating population-scale TB screening

M42 is a UAE-based global health entity powered by AI, technology and genomics to advance innovation in health. The use of AI in tuberculosis screening at M42's Capital Health Screening Centre (CHSC) demonstrates the UAE's commitment to leveraging cutting-edge technology for broader applications across the healthcare ecosystem.

Population-scale TB screening is a core part of the UAE's public health strategy, with large centres screening between 0.5 and 2 million clients annually. However, these centres face significant challenges: a shortage of trained radiologists, daily workloads of up to 2,000 chest x-rays per expert, and the fact that 99% of scans show no findings, leading to inefficiencies, higher error rates and clinician burnout. Missed TB cases also pose a serious public health concern.

To address this, CHSC curated 5 million annotated chest x-rays, which were used to train "Scan42", an imaging foundation model. This model was then fine-tuned to distinguish between normal and abnormal cases, with a focus on TB detection. The result was "AIRIS-TB", an AI model optimised for safety and efficiency with a dual-threshold classification system that minimises false negatives. AIRIS-TB was further integrated into real-time picture archiving and communication systems and electronic health record systems, enabling seamless deployment in clinical workflows.

Over a two-year period, AIRIS-TB was validated against radiologists on more than one million scans, making it one of the world's largest clinical AI validation studies. The model achieved zero false negatives in TB detection, meeting the World Health Organisation (WHO)'s recommended product profile for AI-based TB screening. The impact has been transformative: radiologist workloads have been reduced by 80%, operational costs have decreased by up to 60%, and the system enables scalable, centralised AI-supported screening without the need to hire additional radiologists.

Beyond improving accuracy and efficiency, AIRIS-TB enhances patient experience with faster reporting and strengthens clinician wellbeing by reducing workloads and burnout. The system also supports quality assurance workflows and provides a cost-efficient, lightweight, central processing unit based deployment model that can be scaled to new centres. Most importantly, AIRIS-TB represents the UAE's first home-grown AI model cleared for clinical adoption, positioning the country as a global leader in AI-enabled public health innovation. ●

³² 'AI scientist' suggests combinations of widely available non-cancer drugs can kill cancer cells | University of Cambridge

8 | Conclusion

The transformative impact of AI will arguably be felt more in the healthcare sector than any other industry. The maturity and breadth of the UK's healthcare sector, and the significant amount of investment that has gone into life sciences in recent years, makes the UK an attractive and like-minded commercial partner for the UAE. Both countries face similar challenges, such as the need to design the optimal data, regulatory and ethical environment to enable AI to deliver its true potential, without compromising privacy or stifling innovation and competition. By leveraging their complementary strengths - the UK's agile regulatory frameworks and leading academic research, and the UAE's commitment to a future-focused health ecosystem through innovation and investment - both countries will be able to forge an ambitious new partnership in enabling AI to transform the healthcare sector.

The UAE and the UK are able to position themselves as global leaders in AI in healthcare data utilisation by working together on harmonising standards for data interoperability, data ownership and governance. The development of a bilateral data adequacy framework and shared ethical principles will help to unlock capacity for joint innovation by building public trust and safeguarding patient rights across the two jurisdictions.

There are also opportunities for collaboration in personalised medicine and genomics - a fast-growing area of innovation for both countries. There would be value in building on the existing collaboration between the biobanks of both countries, so that they can lead in developing global standards for harnessing the power of genomics to revolutionise healthcare.

Both countries are at an inflection point in terms of converting the power of AI to delivering meaningful healthcare benefits to their respective populations. The key to achieving this will be through knowledge exchange and dialogue on how to optimise the regulatory and policy environment in both countries to support the flow of data, research findings and technological innovation, thus enabling the incentivisation of new commercial collaboration. ●

9 | Recommendations

The recommendations below reflect the priorities identified by the stakeholders involved in the drafting of this Paper and our focus group discussions, and are for policy makers, regulators, healthcare practitioners and the business community in both countries to jointly deliver on. The UAE-UK Business Council will audit progress on the delivery of these recommendations on a six-monthly basis.

- 1 | The UK and the UAE should explore how a bilateral data adequacy framework could support collaboration in data-driven AI healthcare innovation. A joint task force should be established, bringing together policymakers, legal experts and healthcare and data specialists from both countries, to map out differences in privacy standards, consent models and technical barriers that impede health data sharing.
- 2 | The UK and the UAE should share knowledge on strengthening interoperability frameworks across health information exchange platforms, leading to the development of a UK-UAE interoperability toolkit to speed early capture, diagnosis and treatment.
- 3 | Skills and healthcare providers in both countries should exchange knowledge on how to address the AI skills gap amongst healthcare practitioners, utilising clinical use cases and covering ethics, data and practical AI tool training.
- 4 | The UAE and the UK should exchange knowledge on the role of AI in improving wellbeing and longevity - the UAE-UK Business Council will host an event on this in early 2026.

- 5 | The UK and the UAE should work together within the framework of the Responsible AI Future Foundation to develop and promote global standards for the responsible and inclusive use of AI in healthcare provision and research, focusing particularly on the ethical use of genomic data, privacy and consent, while respecting jurisdictional differences.
- 6 | The UK and the UAE should encourage twinning initiatives between their respective Innovation Hubs, providing testbeds for digital health and genomic innovation partnerships.
- 7 | A mentorship network should be established to connect startups with UK and UAE experts in genomics, AI, healthcare systems and regulatory pathways.

ANNEX 1 – Campaign Participants:

We are very grateful to representatives of the following organisations for participating in this campaign and providing their insights and expertise:

Abu Dhabi Biobank: <https://abudhabibiobank.ae/>

Abu Dhabi Department of Health: <https://www.doh.gov.ae/en/>

Al Tamimi & Co: <https://www.tamimi.com/>

Amplify Discovery: <https://amplifydiscovery.com/>

BeehiveX: <https://beehivex.com/>

Bevan Brittan: <https://www.bevanbrittan.com/>

Browne Jacobson: <https://www.brownejacobson.com/>

Candesic: <https://candesic.com/>

CAREFUL: <https://careful.online/>

Cancer Research UK: <https://www.cancerresearchuk.org/>

Cleveland Clinic Abu Dhabi: <https://www.clevelandclinicabudhabi.ae/en/>

Department for Business and Trade (DBT): <https://www.gov.uk/government/organisations/department-for-business-and-trade>

Dubai Health Authority (DHA): <https://www.dha.gov.ae/en>

Great Ormond Street Hospital for Children NHS Foundation Trust: <https://www.goshdrive.com/>

GSK: <https://www.gsk.com/en-gb/>

Guys and St. Thomas' NHS Trust: <https://www.guysandstthomas.nhs.uk/>

G42: <https://www.g42.ai/>

Haleon: <https://www.haleon.com/>

Healthcare UK: <https://nhsinnovations.uk/>

Heriot-Watt University: <https://www.hw.ac.uk/>

I3 Solutions Limited: <https://i3solutions.com/>

Kevin Cunnington, former UK Digital Envoy

Lytix: <https://lytix.be/>

M42: <https://m42.ae/>

Open Medical: <https://www.openmedical.co.uk/>

Pure CS: <https://purecs.ae/>

Pure Health: <https://purehealth.ae/>

Razi: <https://razi.uk/>

Sonrai Analytics: <https://sonraianalytics.com/>

The Health Value Alliance (HVA): <https://www.thehva.com/>

Technology Innovation Institute (TII): <https://www.tii.ae/>

University of Cambridge: <https://www.cam.ac.uk/>

Vitvio: <https://www.vitvio.com/>

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