



## BLOCKCHAIN TECHNOLOGIES

All-Party Parliamentary Group

### PARLIAMENTARY ROUNDTABLE

## Blockchain for Healthcare & Life Sciences

Organised by The British Blockchain Association (APPG Secretariat)

Wednesday, 13 May 2026 • 4:00pm – 5:30pm • Portcullis House, Room U, Houses of Parliament

**Meeting Chair:** Rt. Hon. Viscount Camrose FBBA, APPG Member, House of Lords

**Roundtable Organiser and Moderator:** Prof. Dr Naseem Naqvi MBE FBBA, President, The British Blockchain Association (BBA), and Head of Blockchain APPG Secretariat

**Secretariat Support:** Deborah Cleary, The BBA | **Industry Support:** Blockmed Pro

**Chatham House Rule.** This summary record was prepared in accordance with the Chatham House Rule. Attendees are listed below for transparency of representation; however, no comment, view, evidence or recommendation contained in this document is attributed to any individual participant. The substance presented reflects the collective discussion of the roundtable.

## 1. Attendees

### Evidence Givers and Participants

- Prof. David Strain FRCP — The British Medical Association (BMA)
- Clare Adelgren — Director, Global Innovation, EY
- Dr Sean Manion FBBA — Senior Editor, The JBBA; Duquesne University, USA
- Dr Burhan Ahmed MRCGP — CEO, BlockMed Pro; Member, The BBA and the APPG
- John Marsh — use MY data
- Simon Dyson — Senior Editor (Healthcare Section), The JBBA
- Dr Joydeep Grover FRCEM — BAPIO
- Dr Saqib Ghani FRCP — DOGANE
- Dr Larisa Yarovaya PhD — University of Southampton; Advisory Board, The BBA
- Joey Garcia — Xapo Bank; Member, The BBA
- Simon Callaghan — Head of Commercial (Australia), WhiteBIT
- Malik Ali — Managing Director, Cryptoaccountants Limited; Member, The BBA
- David Zell — BPI
- Connor Brown — BPI
- Emmanuel Young — Kula
- Dr Kamila Haider — APPNE



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## 2. Purpose and Framing

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The Chair opened the roundtable by emphasising the need to create a moment of widespread public recognition for blockchain's potential in healthcare, comparable to recent breakthroughs in other emerging technologies. Four opportunity areas were identified: operational efficiency; security and cybersecurity; patient safety and pharmacovigilance; and scientific or medical insight. The priority articulated was to drive adoption in ways that attract public attention and spread understanding beyond specialist circles.

The Head of the APPG Secretariat framed the session as evidence-gathering on a national priority — the modernisation of Britain's digital strategy for healthcare and life sciences. The British Blockchain Association, established in 2017, serves as the APPG Secretariat, and is among the oldest blockchain associations globally. The session examined seven high-impact frontiers: electronic health records on blockchain; genomics and biobanks; identity and verifiable credentials; pharmaceutical supply chains on distributed ledgers; clinical trials and medical research on-chain; the use of blockchain to address AI algorithmic bias and LLM training data quality; and organ transplantation on-chain.

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## 3. The Evidence Base — Critical Statistics

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The following statistics framed the urgency of the discussion and were tabled to anchor evidence in measurable harm and economic impact:

- 1.8 million medication errors annually in England, costing £17.8m and contributing to more than 40 deaths, largely because clinical systems fail to communicate.
- 25,000 NHS doctor days lost annually to credential verification as junior doctors rotate between trusts.
- Fewer than 4.5% of FDA-cleared AI medical devices disclose demographic diversity in their training datasets.
- \$83 billion of counterfeit drugs sold globally each year; up to 169,000 children killed annually by fake antibiotics alone.
- Over 85% of biomedical research funds wasted globally — more than \$100 billion per year.
- Three in four potential donor organs never transplanted due to gaps in consent, coordination and chain-of-custody.
- 500,000 US citizens' genomic records breached and sold to a foreign buyer, illustrating the systemic risks of centralised "honey-pot" biobanks.
- Fewer than 1% of clinical AI tools deployed in the NHS have undergone clinical-outcomes validation (down from 2% several years ago).

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## 4. Themes Explored

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### 4.1 Blockchain as the Trust Layer for Healthcare

Blockchain was presented as a distributed ledger technology in which computational verification creates chains of verifiable information with full lineage — allowing data to be traced to its origin with assured integrity. The core challenge for healthcare was characterised as the failure of fragmented databases



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and computational systems to communicate in real time. Blockchain's start-to-end verification was described as providing the trust element that enables coordination across that fragmented infrastructure without imposing a centralised controller. Crucially, medical records themselves are never stored on-chain; what is recorded are cryptographic hashes, consent mechanisms and linked metadata.

### 4.2 Medicine as a Knowledge Supply Chain

Participants treated medicine as a knowledge supply chain in which data provenance determines evidence quality. It currently takes between ten and seventeen years for research knowledge to reach clinical practice, and science increasingly suffers from publish-or-perish pressures that erode quality. The roundtable heard that each medical sub-specialty requires its own specialty-trained computational models governed by domain experts, rather than generic large language models. Blockchain enables a quality-tiering of evidence — analogous to food-grade provenance — with transparent records of who scored, validated and reproduced findings.

### 4.3 Systemic Bias in Healthcare Data

Frailty and multimorbidity — conditions affecting roughly half of the world's population — are systematically under-represented in randomised controlled trials. Revalidation of landmark trials on federated platforms reproduced the original findings for white male populations but produced materially different results across ethnicities, genders and age groups. The current evidence base was characterised as inherently skewed towards Western, white, male populations, with training on these datasets entrenching rather than correcting inequities. A clinically significant example was presented: using existing UK primary-care datasets, bowel cancer can be predicted up to two years earlier than current pathways — the difference between curative surgery and palliative care.

### 4.4 The Clinical Validation Crisis

Less than 1% of clinical AI tools currently deployed in the NHS have been validated for clinical outcomes. Sixty ambient scribing tools have been rolled out across NHS settings after technical validation alone — without confirmation that they save time, reduce burnout, or accurately capture clinical nuance. The roundtable distinguished sharply between technical validation (predictable inputs yielding predictable outputs) and clinical-outcomes validation (whether deployment actually improves patient care). The two are routinely conflated. A blockchain audit layer was proposed as a means of tracking both forms of validation across the device lifecycle.

### 4.5 Pharmaceutical Supply-Chain Integrity

The supply-chain problem was characterised as one of fragmented accountability rather than absent data. Manufacturers, wholesalers, logistics providers, hospitals, pharmacies and regulators each hold pieces of the story without a shared, reliable view. Blockchain operates as a neutral trust layer that strengthens integrity, consent and provenance without requiring organisations to abandon their existing systems. Work cited in vaccine distribution and blood-plasma traceability demonstrates that the value lies in improving visibility and coordination across handoffs. The infiltration of counterfeit GLP-1 agonists (Ozempic, Wegovy) onto UK pharmacy shelves was cited as an immediate, named use case.



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### 4.6 The Federated Data Platform, Sovereignty and Consent

The current Federated Data Platform was acknowledged as legally compliant and supported by robust information governance; the issue raised was one of transparency and trust rather than legality. A single patient record was endorsed in principle, with the caveat that it must be delivered “responsibly.” Integrating blockchain would create cryptographic fingerprints on-chain showing when data was accessed, by whom, for what purpose, when patients consented to third-party research use, and when consent was revoked. Strong support was expressed for a single Federated Data Platform, with emphasis on sovereignty requiring UK or EU hosting of computation and data. The use of proprietary languages in the current platform was flagged as a source of interoperability risk and vendor lock-in.

### 4.7 Clinical Passporting and Digital Identity

Blockchain-based clinical passporting using verifiable credentials could collapse credential verification from days to minutes, returning some 25,000 doctor-days a year to patient care. Digital identity, however, was identified as the single most sensitive entry point. There is significant public backlash to centralised digital ID initiatives and starting with national digital identity was characterised as the most likely route to outright rejection. The recommended path is to demonstrate value in lower-risk domains — clinical trial consent, supply-chain authentication, NHS funds disbursement — before progressing to broader identity applications.

### 4.8 Interoperability across Legacy NHS Systems

Current NHS EPR systems were described as siloed even within a single vendor’s product stack. Clinicians may need to check three separate systems to verify a single patient allergy, creating measurable patient-safety risk. Wholesale replacement is unrealistic, particularly in primary care. NHS Spine and existing payment infrastructure already permit technical interoperability; the binding constraint is governance — there is no traceable record of who accesses data. Blockchain places a digital fingerprint on every data-access event, enabling query across systems by NHS number while keeping records in their original locations.

### 4.9 Security, Resilience and Fraud Limitations

Blockchain was described as an append-only distributed ledger in which the substantive medical records are not stored, only references and one-way cryptographic hashes. Tamper resistance is extremely high; the Bitcoin protocol has operated for 15 years under continuous attack, with a notional trillion-dollar bounty for any successful breach of the protocol level that remains unclaimed. Attacks consistently occur at the user end (phishing, credential theft), not at protocol level. Post-quantum cryptographic standards were identified as essential for systems being deployed in the coming years. The limitations were stated frankly: blockchain protects the integrity of what is recorded but cannot itself verify that the original input was correct — strong identity, device and process controls remain essential.

## 5. Stakeholder Perspectives

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### **Industry**

Industry evidence was consistent: blockchain enables interoperability across legacy systems without requiring wholesale infrastructure replacement, by providing a neutral trust layer. Implementations should be standards-led, governance-first and focused on high-value, high-risk use cases where data integrity genuinely matters. Scalability is no longer in question — it has been proven over more than a decade in financial-services and cryptocurrency contexts that operate at greater scale than current healthcare deployments. Better public communication is required; technical jargon does not resonate, and accessible metaphors such as “fingerprinting” and “tamper-evident” should be adopted.

### **Patient Advocacy**

Trustworthiness and transparency were described as absolutely critical to patient acceptance. If blockchain can demonstrably improve both, it is valuable — but the current conversation does not resonate with patients. A gap exists between expert technical discussion and the communication needed to bring patients along on the journey. Without bridging this gap, public trust will not be secured, and progress will stall regardless of the technology’s technical merits.

### **Clinical Academia**

Federated blockchain approaches enable analysis of raw data across demographics without centralising sensitive information, surfacing the biases that pre-supposed models perpetuate. Concrete clinical benefits were articulated, notably bowel-cancer prediction two years earlier than current pathways. The UK possesses a unique national-dataset advantage — integrated primary, secondary, pharmaceutical and social-care data — that, with proper governance, could deliver unprecedented improvements in health equity.

### **Regulatory Perspective**

Less than 1% of clinical AI tools currently deployed in the NHS have been clinically validated. Institutional review boards and regulatory bodies do not yet fully understand the pace of the technology. Time-stamped clinical trial data in tamper-evident ledgers would eliminate entire classes of regulatory problem, as evidence would be authenticated and auditable rather than chased through paper trails.

### **Medical Associations**

Medical associations representing thousands of clinicians across Europe emphasised the urgency of education and outreach. Regular meetings, educational conferences and CPD pathways provide a platform for broader dissemination among practising clinicians and trainees from medical-student level to senior consultants. Content from this session should be cascaded back through these networks.

### **International Perspectives**

Estonia has successfully deployed KSI Guardtime time-stamping on ledgers for medical records, providing a proven model. The GCC and the EU are advancing pilots and developing distributed-ledger frameworks for ethical data use. The UK has the opportunity to lead rather than follow but, the roundtable heard, this requires the political will to prioritise transparency over expediency.



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## 6. Key Recommendations to Policymakers

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Three priority recommendations were identified for immediate action, supported by a wider set of strategic and communication priorities.

### Recommendations

1. Commission a simple, high-value pilot on clinical trial consent on-chain. Time-stamped trial data in tamper-evident ledgers would eliminate regulatory burden while creating clear, auditable consent trails. This is a low-risk, high-value, immediate use case.
2. Integrate a blockchain transparency layer with federated data platforms. Apply cryptographic fingerprints to data-access events; record patient consent and revocation on-chain; track clinician actions through an immutable audit trail; and ensure UK or EU hosting for sensitive health data.
3. Develop governance and procurement frameworks for distributed ledger technology, drawing on Estonia's decade of deployment and on GCC and EU frameworks for ethical data use. Establish UK-specific rule books before scaling, defining roles, responsibilities and liability, and mandating standards-led integration to avoid vendor lock-in.

### Strategic and Operational Priorities

- Develop a national clinical passporting system using verifiable credentials, collapsing credential verification from days to minutes and returning thousands of clinical days a year to patient care.
- Demonstrate government use of blockchain first — in NHS operational running and funds disbursement — before deploying citizen-facing applications, following the World Bank model.
- Address algorithmic bias through blockchain provenance, enabling quality tiering of training data and mandating disclosure of demographic diversity for any AI medical device deployed in the NHS.
- Scale early bowel-cancer detection using federated blockchain analysis of existing primary-care datasets, exploiting a two-year prediction advantage shown to alter clinical outcomes.
- Require both technical and clinical-outcomes validation before any NHS-wide AI tool rollout; retrospectively validate the 60 ambient scribing tools already deployed.
- Support UK infrastructure sovereignty with domestic or EU hosting for sensitive health data, and reject proprietary languages that create lock-in.
- Improve public communication by replacing technical jargon with accessible metaphors such as “fingerprinting” and “tamper-evident”; co-design messaging with patient advocacy groups before broad deployment.
- Educate healthcare professionals by working with medical associations and healthcare advocacy bodies, embedding blockchain literacy in curricula from medical school through CPD.
- Adopt post-quantum cryptographic standards for systems deployed in the coming years to ensure long-term security of on-chain references and fingerprints.



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## 7. Closing Remarks and Actions

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The Chair closed the session describing the discussion as brilliant and educational, providing inspiration to act. He emphasised the need to pilot applications immediately, to change the public language used around blockchain in favour of reassuring metaphor, and to focus relentlessly on building trust — without which progress will stall, regardless of technical merit. The Head of the APPG Secretariat thanked the Chair and participants and confirmed minutes would be prepared and circulated.

The infrastructure exists. The technology is proven. The use cases are clear and the benefits are substantial. What is required is the political will to prioritise transparency over expediency, to take citizens along at a pace they can accept, and to recognise that data-sharing without provenance is not a neutral policy choice — it is an active decision to centralise risk and erode trust when policy runs ahead of public confidence.

### Actions Arising

- BBA to engage healthcare associations and patient advocacy bodies on educational outreach to public and professionals.
- BBA to engage relevant professional bodies regarding blockchain-based clinical-trial pilots.
- BBA to circulate case-study materials on a decade of blockchain medical-records deployment.
- Participants to provide feedback on distributed-ledger frameworks for ethical data use.
- Follow-up session to be scheduled examining clinical-passporting implementation specifics.

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*Meeting concluded at 5:30pm. Summary prepared by The BBA under the Chatham House Rule.*

**Pictures from the session >>**



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**APPG Roundtable:  
Blockchain for Healthcare & Life Sciences - 13 May 2026**



The British Blockchain Association  
Advocating Evidence Based Blockchain



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