Reflections from MIE2025: Advancing Digital Health Through People, Data and Innovation

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As a bursary recipient, I was able to travel to Glasgow for the Medical Informatics Europe (MIE) 2025 Conference which was held from May 19th to 21st 2025. I spent three energising days immersed in cutting-edge research, talks, and practical sessions with world leaders in digital health. MIE2025 featured more than 350 contributions from 49 countries under the theme "Intelligent Health Systems: From Technology to Data and Knowledge" a remarkable melting pot of expertise driving the field of health informatics forward.

Opening Ceremony: A Symbol of Leadership

Professor John Mantas, Professor Emeritus in Health Informatics at the National and Kapodistrian University of Athens and Chair of MIE 2024,ceremoniously passed the MIE baton to Professor Philip Scott, Chair of the BCS Faculty of Health and Care and host of MIE 2025, to kick off the conference. This was a proud occasion that demonstrated BCS's continued leadership in global health informatics. The Passing of Baton was followed by welcome addresses by Dr. Lars Lindsköld, President of the European Federation of Medical Informatics (EFMI) and Dr John Harden, National Clinical Lead for Quality & Safety who spoke on behalf of the Scottish Government and NHS Scotland.

AI and Data-Driven Transformation in Healthcare

Professor Charles Friedman of the University of Michigan gave a keynote address that was particularly noteworthy. He presented AI as a cooperative partner in learning health systems rather than only a tool. I particularly paid attention to the 10 Sociotechnical services for Learning Heath System (LHS) Infrastructure which supports a continuous cycle of data, knowledge and performance. These services include the development of equitable data, performance measurement tools, knowledge generation and codification to support inclusive learning communities. Through my work in the NHS, I strongly related to this message, as it emphasises the fundamental principle in integrated care and population health management: the mobilisation of usable data to continuously improve care.

On the opening day the sessions I attended demonstrated how structured, shareable data supports safer, smarter healthcare, and how feature selection and data

transformation are vital in health analytics. From overcoming data sharing hurdles with synthetic data by Jim Achterberg from the Leiden University Medical Centre to the critical role of custom data selection and aggregation in health analytics by Lena Baum of the Berlin Institute of Health (BIH) at Charité – Universitätsmedizin Berlin to using predictive analytics for hospital frailty risk scores by Huda Kutrani from the University of Portsmouth Centre for Healthcare Modelling and Informatics.

A personal standout for me was a presentation by Sheiladen Aquino, Clinical Lead Speech & Language Therapist at Cwm Taf Morgannwg University Health Board in Wales, who demonstrated how Virtual Reality can be used to train care home workers in telehealth an innovation that I think has a lot of potential in community services and remote care delivery.

Building Skills and Driving Usability

Most of the sessions I attended on the second day of the conference focused on "Advancing Digital Health through Skills, Standards & Smart Data". Guido Giunti's session on advanced digital health skills was a powerful reminder that technology adoption depends on capable, confident people. Upskilling clinicians is not optional; it is essential for transformation.

Equally inspiring was Harald Witte's presentation of the Swiss Personalised Health Network (SPHN) Metadata Catalogue, illustrating how FAIR (Findable, Accessible, Interoperable, Reusable) data principles can revolutionise data discovery and transparency, a model which I think is worth exploring for NHS data standards and information governance. Usability also featured strongly, with Blake Lesserloth – from the University of Oklahoma–Tulsa School of Community Medicine - who spoke about telemedicine simulation testing underlining that design must prioritise real clinical users.

I closed the day with a very interesting session by Gavin Jamie from the Nuffield Department of Primary Care Health Sciences at the University of Oxford and which focused on improving primary care data quality, reinforcing that high-quality data starts at the point of care and requires intentional design and education.

AI, Ethics and Human Connections

On the closing day, the sessions I attended were focused on ethics, automation, and artificial intelligence. I participated in a panel on robotics and natural language processing (NLP), where we talked about the exciting potential as well as the need to apply caution in ensuring ethical AI applications in clinical settings.

Presentation topics included AI-powered audiomics in pulmonary medicine by Sakthi Jaya Sundar Rajasekeran, AI chatbots for cancer support by Samuel McInerny, and

enhancing the readability of dementia information with ChatGPT by Jonathan Turner. These demonstrated how Natural language processing and big language models can influence triage and patient support.

The keynote address by Professor Kathrin Cresswell of the Usher Institute, University of Edinburgh, highlighted the evolving focus of the NHS and the history of national digitalisation programmes. She also pointed out infrastructural challenges and it all served as an important reminder that national strategies require active involvement from service delivery organisations, frontline staff and the public.

In his closing remarks Dr. Lars Lindsköld reemphasised what it truly means to be human in this age of AI, highlighting that unlike machines, humans think and feel, he also stressed that while AI can support us, it should never replace our unique human essence. His quote "Humans need Humans to become Humans" is something to really reflect on.

Important Lessons for UK Healthcare and the NHS

1. **Prioritise People and Skills**
   Technology alone cannot transform healthcare. The future depends on growing the NHS workforce's capacity in data analytics, clinical informatics, and digital literacy.

2. **Make Data Work for People**
   The basis of safe, efficient healthcare is high-quality data. Data must be Findable, Accessible, Interoperable, and Reusable (FAIR) to influence better choices and results. These guidelines, when combined with strong metadata catalogues and privacy-preserving technologies, help guarantee that NHS data is not only safe but also transferable between systems and environments, thereby enhancing patient care and assisting those who provide it.

3. **Ensure Accountability in AI**
   Although AI is developing quickly, it will require more than just innovation for it to succeed in the healthcare industry. Building trust requires strong validation, transparent accountability, and ethical concerns. To guarantee safety, equity, and practical efficacy, development and implementation must be guided by transparent governance structures and active physician involvement, particularly in high-stakes settings like the NHS.

4. **Champion Human-Centred Innovation**
   Innovation must put user experience first in everything from Virtual Reality (VR) simulations to telemedicine training to promote acceptance, increase safety, and improve results for both employees and patients. This is particularly important in community settings, where easily navigable solutions can empower care teams and facilitate the provision of at-home or remote care.

5. **Global Learning, Local Action**
   Effective solutions must be customised to local circumstances, even when healthcare concerns are universal. Initiatives for digital transformation and NHS Integrated Care Systems can benefit from insights gained from global experience.

Looking Ahead

Being at MIE2025 was not just a career achievement but a turning point for me. The people I met, the concepts I learned, and the insights I gained will all have a significant impact on how I contribute to digital transformation in the NHS.

I am very grateful to the BCS Electronic Health and Care Records Special Interest Group for making it possible. As an NHS data analyst, the knowledge and relationships I gained at MIE2025 will have a direct impact on how I use data to drive innovation, system improvement, and patient care. As we anticipate MIE2026 in Genova, I am more determined than ever to promote ethical, inclusive, and genuinely meaningful digital health that is motivated by people, powered by data, and inspired by innovation.