Press release **13 September 2023**

Region-wide AI deal to help tackle waiting lists across nine NHS trusts

The Cheshire and Merseyside Integrated Care System has signed a new agreement with its technology provider C2-Ai, to significantly expand a high-impact waiting list initiative across all its acute hospitals.

The ICS, one of the largest in England, will now start to scale successes already achieved by several trusts in the region, where pioneering NHS teams have deployed an AI-backed decision support model to help find, prioritise and support some of the highest-risk patients on waiting lists.

Improved outcomes, fewer A&E admissions and shorter hospital stays, are just some of achievements recorded at early adopter hospitals. This follows the introduction of technology from UK company C2-Ai, which flags previously hidden risks for patients and suggests specific actions for clinicians according to parameters they set.

Surgeons and operational teams have embraced the technology where it has already been deployed, using the system to save many hours in prioritising lists, and to help to determine when, where and how to treat patients to deliver the best outcome. Health and care teams have also been able to provide targeted support to patients on waiting lists who are identified at risk of deterioration, in a pre-habilitation programme called 'waiting well', leading to significantly improved outcomes following surgery.

Professor Rowan Pritchard-Jones, medical director for NHS Cheshire and Merseyside, said: "This is an entirely different way of working, helping us to identify and prevent risks becoming reality for many patients. Our use of AI as a tool to help prevent harm, has the potential to enable some of the biggest changes in 75 years around how waiting lists are safely managed in the NHS.

"Delivering successful healthcare at a time when resources are in high demand, means finding those in greatest need, and creating genuine impact for them. That's what some of our pioneering teams have already been doing with the help of technology, and we will be working with many others to ensure they have an opportunity to embrace tools now available."

The innovative AI model was first introduced at a number of the region's hospitals in 2020. Busy surgeons were able to use technology to quickly identify and gain a detailed understanding of their highest urgency patients and use clinical decision support to act and more safely address backlogs during the summer months.

An NHS England assessment of the first 125,000 patients to be managed through the system, found a two-thirds reduction in the need for ICU for the highest risk patients, 125 bed-days saved for every 1,000 patients on the waiting list, an 8% reduction in emergency admissions, and reductions in avoidable harm.

The system works by harnessing information relating to patients across multiple care settings and calculates their individual clinical risks as information changes. It then suggests priority scoring to surgical teams, provides insight on where best to treat them in the region, and can indicate required prehabilitation support for patients as they wait to prevent them becoming more unwell.

Dr Mark Ratnarajah, UK managing director for C2-Ai, said: "This means that patients on waiting lists can be managed based on a detailed and near real-time understanding of their changing clinical needs, impacts of social determinants of health and risks from decompensation either from their underling condition and or their multimorbidity, rather than basing decisions only on time on waiting list and type of procedure.

“As we work closely with multidisciplinary teams across the region to understand how we can meet their needs and gradually expand this important programme, we will create new opportunities to release their time to focus on clinically important work. The programme is creating valuable new intelligence for busy healthcare professionals, who have been highly confident in the technology, but who also remain in full control of decisions. This is a powerful example of using AI for good.”

The clinically-led AI model, pioneered in Cheshire and Merseyside, has been shown in peer-reviewed studies to be highly accurate in identifying specific risks of harm and mortality for patients on waiting lists. It has been the subject of Royal College of Surgeons funded health economic analysis, has been recognised in multiple awards, and was looked to as an example of best practice internationally at the World Congress of Prehabilitation in July 2023.

The model and underpinning technology, which already assesses risks on 250,000 patients a week in the region, will be made available to teams at all nine acute trusts across Cheshire and Merseyside. This includes:

- Countess of Chester Hospital NHS Foundation Trust
- East Cheshire NHS Trust
- Mid Cheshire Hospitals NHS Foundation Trust
- Liverpool Heart and Chest Hospital NHS Foundation Trust
- Liverpool University Hospitals NHS Foundation Trust
- Liverpool Women’s Hospital NHS Foundation Trust
- Mersey and West Lancashire Teaching Hospitals NHS Trust
- Warrington and Halton Teaching Hospitals NHS Foundation Trust
- Wirral University Teaching Hospital NHS Foundation Trust.

Dozens of NHS trusts across the country have now started to replicate work seen in Cheshire and Merseyside. With close national interest shown in the region’s waiting list initiatives, and regional support from organisations including the Innovation Agency and wider Academic Health Science Networks, it is hoped achievements could soon be scaled even further across the NHS.

ENDS

Notes to editors

About Cheshire and Merseyside

- With a population of more than 2.7m people, Cheshire and Merseyside is the second largest Integrated Care System footprint in the country, in which one in three residents live in communities classed among the most deprived in England.
- Cheshire and Merseyside has:
  - 18 NHS Trusts (including North West Ambulance Service)
  - 355 GP practices
  - 500+ pharmacies
  - 9 Local Authorities
  - 9 Place-based partnerships

About C2-Ai

C2-Ai is a trusted NHS digital partner. The company has provided national support and its technology is used in a wide number of NHS trusts and across 11 countries.

C2-Ai provides an AI-backed suite of hospital care quality/efficiency improvement tools developed from more than 30 years of research, ten years of development and the world’s largest and geographically broadest patient data set (from 46 countries). In the UK these systems have a track record for delivering demonstrable improvements in care.