# NHS to deploy Foresight AI model analysing 57 million patient records to predict diseases before symptoms



A pioneering artificial intelligence (AI) model, named Foresight, is being developed to analyse medical data from 57 million individuals within NHS England, aiming to foresee diseases and complications before they arise. This initiative, led by researchers from University College London (UCL) and King's College London (KCL), represents a significant advancement in leveraging AI for predictive healthcare.

Foresight employs technology akin to that of ChatGPT but focuses on examining patients' medical histories rather than generating text. The AI model is being trained on eight routinely collected datasets, such as hospital admissions, Accident & Emergency (A&E) attendances, and Covid-19 vaccination rates. Importantly, these datasets have been de-identified to ensure patient privacy.

Dr Chris Tomlinson from UCL expressed optimism about the project's potential, stating, "Foresight is a really exciting step towards being able to predict disease and complications before they happen, giving us a window to intervene and enabling a shift towards more preventative healthcare at scale." He provided an illustrative example of Foresight's capabilities, highlighting its ability to predict unscheduled hospitalisation—a scenario often linked to deteriorating health, which can stem from various causes and significantly impact healthcare resources.

Currently, the scope of Foresight is primarily focused on Covid-19-related research. However, the project aims to eventually expand its predictive capabilities to encompass over 1,000 different health conditions, including risks of hospitalisation and mortality. Dr Tomlinson noted the intent to enhance Foresight by integrating additional data sources, such as physicians' notes and results from diagnostic tests, to create a more comprehensive predictive tool.

The pilot study operates within the NHS England’s Secure Data Environment, a framework established to manage data securely while ensuring that de-personalised patient records remain under strict control. Dr Vin Diwakar, national director of transformation at NHS England, indicated the significance of this secure data environment for facilitating research that aims to personalise healthcare interventions to improve patient outcomes.

Science and technology secretary Peter Kyle remarked on the transformative potential of this research, emphasizing that AI, combined with the NHS’s wealth of secure and anonymised data, could revolutionise healthcare delivery. He stated that this work aligns with the Government’s objectives to improve healthcare systems and boost economic growth, underscoring a commitment to safeguarding patient data.

This pilot study builds on previous research findings published in the Lancet Digital Health, which indicated Foresight's ability to effectively predict health conditions that patients may develop in the future. Professor Richard Dobson, deputy director of the NIHR Maudsley Biomedical Research Centre and a co-leader of the project, expressed enthusiasm for implementing Foresight on a national scale, suggesting it could yield more robust predictions that could inform healthcare services at both national and local levels.

As the project progresses, it holds the promise of transforming preventative health strategies and establishing a new paradigm in the management of chronic and acute health conditions.

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

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2. <https://www.kcl.ac.uk/news/nhs-data-enables-ai-model-for-optimising-diabetic-eye-screening> - This piece details how NHS data has been utilized to create an AI model for optimizing diabetic eye screening, demonstrating the application of AI in analyzing medical data.
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5. <https://www.standard.co.uk/news/tech/nhs-artificial-intelligence-chatgpt-university-college-london-london-b1146669.html> - This news piece covers the development of Foresight, an AI tool trained on NHS electronic health records, and its potential to predict future health conditions, supporting the article's claims about Foresight's predictive capabilities.
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