

Artificial intelligence for analysing chest CT images (provisional title)

Software that uses artificial intelligence derived algorithms to analyse chest CT scans is available. This software could help detect lung cancer in people who are having surveillance to monitor the growth of pulmonary nodules.

Pulmonary nodules are growths inside the lung. They are often found incidentally or in a lung health check for people at risk of lung cancer. Most pulmonary nodules are benign and small, but some may grow and develop into lung cancer. Lung cancer is one of the most common types of cancer in England. It causes symptoms such as persistent cough, coughing up blood, and feeling short of breath. People in the early stages of the disease may not have symptoms and so lung cancer is often diagnosed late. An earlier diagnosis would ensure more treatment options are available and can mean better outcomes for many people.

If a small pulmonary nodule is found, a clinician may want to monitor it using CT scans to see whether it grows and is likely to be cancerous. To assess the nodule growth, measuring the diameter or the volume of the nodule is currently recommended. Software with artificial intelligence derived algorithms may help increase the accuracy of the growth assessment. It could support decisions on further follow-up and may reduce time to diagnosis or discharge. The NICE diagnostics assessment programme will assess the clinical and cost-effectiveness of software with artificial intelligence derived algorithms when used to help decide whether pulmonary nodules are likely to be cancerous. NICE will make recommendations on their use in the NHS.