

GP's databases could identify tens of thousands with undiagnosed diabetes in UK

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Researchers who examined blood test records in a survey of over 3.6 million patient records held by UK GP surgeries have found thousands of cases of probable undiagnosed diabetes. This could help identify tens of thousands of people with undiagnosed diabetes in UK.

The research is published in the March issue of the *British Journal of General Practice* and was led by Dr Tim Holt of the University of Warwick with colleagues from Nottingham University, Egton Medical Information Systems (EMIS) in Leeds, and Imperial College in London. The article is entitled “Identifying undiagnosed diabetes: cross-sectional survey of 3.6 million patients’ electronic records.” The full list of the researchers is detailed below.

The researchers surveyed 3,630,296 electronic patient records in 480 GP surgeries all over the UK which contribute anonymised electronic health record data to the QRESEARCH database in Nottingham for research purposes.

The research team looked for biochemical evidence of undiagnosed diabetes recorded in blood glucose measurements. They first eliminated known patients with diabetes, and cases where raised blood glucose was found but diabetes had already been ruled out as a cause by further tests. They found that this still left 3,758 patients whose last blood glucose level was indicative of undiagnosed diabetes, and 32,785 patients whose last level was at best borderline leaving many of them at significant risk of diabetes and requiring further assessment.

Lead author Dr Tim Holt, from the University of Warwick's Warwick Medical School, said: "The search was originally piloted in my own practice in Warwickshire, and six individuals were found, most of whom were diagnosed with diabetes on further testing. The majority of practices sampled in the research project included such patients. If the same survey was extended to all UK GP surgeries we estimate that 60,000 people would be identified with evidence of undiagnosed diabetes. In addition, over half a million people nationally would require further tests to rule out diabetes. The study demonstrates the power of information technology to assist practice teams in the early detection of diabetes."

The researchers were pleased to find how commonly blood glucose test results were recorded- one third of people over 40 years without diabetes have a blood glucose measurement in the past two years in their medical record. Raised or borderline blood glucose levels may not be followed up for a number of reasons that will be the subject of further research. In people without symptoms of diabetes, other more pressing issues may take priority over a borderline test, or the patient may not respond to an invitation for follow up.

It is known that diabetes often goes undiagnosed for years, and there is a large 'missing population' of people with diabetes in the UK. Computer searches may be an effective means of identifying some of this population. As a result of this research software has been installed into the majority of UK practices to assist practice staff in identifying possible cases during routine care. This involves screen alert messages and regularly updated lists. The researchers call on all GPs to use the software to improve the early detection of diabetes in the UK.

On searching his own GP practice records Dr Holt found 6 patients who required further follow up. One of those patients, Mr Peter Alexander, a Business Sales Manager from Warwickshire said "I wish that this system

had been introduced nationwide much earlier. For everyone it is important to have their health checked regularly, for the good of the country and using this software a lot of people with undiagnosed diabetes may be identified immediately.”

Source: University of Warwick

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