

# Blood glucose levels measured in hospitalized patients can predict risk of type 2 diabetes

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Blood glucose levels measured in hospitalized adults during acute illness can be used to predict risk of developing type 2 diabetes over the following 3 years, according to a study published by David McAllister and colleagues from the University of Edinburgh, UK in this week's *PLOS Medicine*.

The researchers obtained measurements of blood glucose levels on admission for 86,634 patients aged 40 years or older who were admitted to a hospital for an acute illness between 2004 and 2008 in Scotland and identified those patients who developed type 2 diabetes up to December 2011 through the Scottish Care Information - Diabetes Collaboration national registry. They found that the overall 3-year risk of developing type 2 diabetes was 2.3%, with the risk of developing diabetes increased linearly with increasing blood glucose level at admission. The 3-year risk of type 2 diabetes was 1% for patients with a glucose level of less than 5 mmol/l (90 mg/dl) and increased to approximately 15% for patients with a glucose of 15 mmol/l (270 mg/dl) or more.

Based on their analyses, the researchers developed a [risk calculator](#) that uses the patient's age, sex, and admission [blood glucose level](#) to predict risk of developing diabetes over 3 years following hospital admission. However, the authors note that this approach has not yet been validated in non-white populations or populations outside of Scotland.

The authors say: "These findings can be used to inform individual [patients](#) of their long-term risk of type 2 [diabetes](#) and to offer lifestyle

advice as appropriate."

**More information:** McAllister DA, Hughes KA, Lone N, Mills NL, Sattar N, et al. (2014) Stress Hyperglycaemia in Hospitalised Patients and Their 3-Year Risk of Diabetes: A Scottish Retrospective Cohort Study. *PLoS Med* 11(8): e1001708. [DOI: 10.1371/journal.pmed.1001708](https://doi.org/10.1371/journal.pmed.1001708)

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