

The cost-effectiveness of testing strategies for type 2 diabetes: a modelling study

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Plain English summary

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There is an ongoing NHS programme offering a Health Check to those between 40 and 74 years of age to check their risk of developing cardiovascular disease in the future by measuring risk factors such as cholesterol and body mass index (BMI). Screening for diabetes forms part of this assessment, but alternative blood tests are available, in particular measurement of glycated haemoglobin (HbA_{1c}) or fasting plasma glucose (FPG). There are advantages to each test: a FPG test is slightly cheaper, but HbA_{1c} does not require an 8-hour overnight fast beforehand. In addition, the set of individuals identifiable with, or at risk of, diabetes using a FPG test would not match the set of individuals identified using a HbA_{1c} test; therefore, the individuals who receive treatment may differ according to which test is used. This report uses information on the number of individuals who would be identified with diabetes or at risk of diabetes and the costs of the blood tests, and, using computer modelling, produces estimates of the lifetime costs and health impact of using a HbA_{1c} test compared with a FPG test. The results suggest that, in most cases, a HbA_{1c} test is likely to be more cost-effective than a FPG test. This conclusion may be reversed in some localities where the excess number of individuals detected with raised glucose using a FPG test relative to a HbA_{1c} test would be greater than in the LEADER (Leicester Ethnic Atherosclerosis and Diabetes Risk) cohort, but this would be dependent on the uptake of HbA_{1c} testing compared with uptake of FPG testing.

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