

# **Multiparametric MRI to improve detection of prostate cancer compared with transrectal ultrasound-guided prostate biopsy alone: the PROMIS study**

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## Plain English summary

### The PROMIS study

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## Plain English summary

The only way to tell whether or not a man has prostate cancer is to examine samples of the prostate under a microscope. These are normally obtained using needles inserted via the rectum, guided by ultrasound imaging. This is called transrectal ultrasound (TRUS)-guided biopsy. However, the ultrasound locates only the prostate and cannot show the cancer, so the needles may miss the cancer.

Transrectal ultrasound-guided biopsy may detect small, slow-growing cancers that would never develop far enough to cause problems. Detecting and treating these has no benefit and exposes men to unnecessary pain and side effects caused by TRUS-guided biopsy. It also creates unnecessary expense for the health service.

This study aimed to find out whether or not a magnetic resonance imaging (MRI) scan can show which men need a TRUS-guided biopsy and which do not. It also assessed whether or not using MRI would improve the detection of cancers that need treatment. Participants volunteered to undergo an extra procedure that takes samples from right across the prostate, as a reference to assess the accuracy of TRUS-guided biopsy and MRI.

We found that using a MRI scan to decide whether or not a biopsy is needed reduces the number of men who have unnecessary biopsies. It may also improve the detection of cancers that need treatment so that fewer are missed. Economic modelling showed that using MRI to decide who should have a TRUS-guided biopsy and to guide the biopsy would be a cost-effective use of NHS resources, providing certain conditions were fulfilled.



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