



Plain Language Summary

Minuteful Kidney for home testing of albumin-to-creatinine ratio (ACR)

SHTG IMTO | March 2022



What is albumin-to-creatinine ratio (ACR) and why do we test for it?

ACR is a urine test which can indicate kidney disease. Kidney problems can develop in people with certain common conditions including diabetes and high blood pressure. Regular urine testing is recommended for these groups but many people at risk of kidney disease do not have this test regularly. This puts them at risk of illness not being detected, and treated, as early as possible.

What is Minuteful Kidney?

Minuteful Kidney is a urine test which patients can do at home. A paper test-strip is dipped into a urine sample and the colour of the strip changes. The colour change is read using a smartphone app which calculates and displays the ACR result, and automatically sends it to the general practitioner (GP) to be logged in health records and followed up if required.

What is innovative about this test?

The ability to read the paper test-strip colour change by smartphone is innovative. Being able to do the test at home means that more people who may not take a urine sample along to their GP as requested are still able to have their kidney function checked.

What we did

We looked at published and unpublished studies on what proportion of people offered the test decided to accept and went on to use the test. The studies also explored what people thought of the test.

We also looked at studies which tried to work out if having this test available would find more people with early kidney disease which could be treated and whether it would be a good use of NHS resources.

What we found

The number of people who were interested in the test when offered the chance to use it by their GP varied between the studies. Most people who agreed to try the test found it easy to use. Most of these people also said they preferred to do the test at home rather than take a urine sample to the GP.

When people decided not to use the new test when offered by their GP, it was usually either because they did not have a smartphone or because they preferred to visit their GP practice and take along a urine sample.

In the studies we looked at about a quarter of those who did the test had an abnormal result, which required follow up by their GP.

Minuteful Kidney has the potential to save costs for the NHS but only if the abnormal tests are properly followed up and people go on to have the necessary further tests and treatments.

What did we consider when developing this IMTO?

We considered patient safety. None of the studies we looked at raised safety concerns with the test kit itself but patient safety could be an issue if abnormal test results are not properly followed up.

We noted that people who were not smartphone users and those with movement, sight or hearing problems could be excluded or find the test difficult to use.

We looked at the effect on GP practice systems and found there could be additional workload and new systems required to incorporate this test.

What are our conclusions?

Minuteful Kidney has the potential to help increase the number of people with early kidney disease being identified and going forward for treatment. This could prevent further illness and complications and save the NHS money. This depends on systems being put in place to make sure abnormal home test results are properly followed up.

Future work

Future work is needed to make sure the use of the test improves health in the long term, over and above existing systems, before consideration can be given to whether or not Minuteful Kidney should be incorporated into GP systems.

This plain language summary has been produced based on Minuteful Kidney for home testing of albumin-to-creatinine ratio (ACR) IMTO, March 2022