



# Smartphone-powered home urine test improves adherence to ACR testing in patients with type 1 diabetes

## Case Study

### Overview

Healthy.io's ACR 'Adherence as a Service' enables people to test their urine at home using a test kit and accompanying app. The service **improved adherence to ACR testing from 0% to 79%** in patients with type 1 diabetes who had been offered the traditional model of care multiple times but did not attend, and consented to participate. This helped identify abnormal ACR in 17% of the patients that tested, that might not otherwise have been identified.

An abnormal ACR test is an independent risk factor for both cardiovascular and chronic kidney disease (CKD). ACR testing is one of the worst performing of NICE recommended diabetes care processes, and is more frequently missed in people with type 1 diabetes than people with type 2.

The project was offered in collaboration with Diabetes Care for You, a service at Sussex Community NHS Trust, for patients living with type 1 diabetes across the Brighton and Hove and High Weald Lewes and Havens CCG areas.

### ACR Adherence as a Service



#### 1 Patient onboarding

Patients were contacted by Healthy.io's patient onboarding team, who provided information about the service, the importance of annual ACR testing, and supported patients to download the app.



#### 2 Self-testing at home

Patients who consented to take part were sent a kit at home and a link to download an app that talks them through the process of home testing.

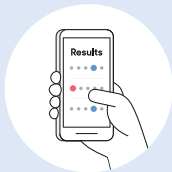


#### 3 Results and follow-up

After completing the test, the results were available in SystmOne, the local electronic patient record system, for clinician review. Patient follow-up was initiated based on the ACR results.

## Outcomes

Home testing demonstrated increase in adherence to ACR testing in patients with type 1 diabetes while improving patient experience.



### Clinical impact:



The service enabled us to identify and prioritise follow-up care for people with early stage CKD that could have otherwise gone undetected"

David Lipscomb, Diabetes Clinical Lead,  
Sussex and East Surrey Health & Care Partnership

**17%** of those tested had an abnormal or high abnormal result, indicating previously unknown albuminuria

**94%** of patients contacted agreed to receive a test, out of which 79% completed an ACR test at home



### Patient impact:

**97%** of patients agreed the service was easy to use

**89%** preferred home testing to attending the clinic



### Financial impact<sup>1</sup>:

Projected savings are driven by early identification and intervention of CKD, reduced progression to ESRD and prevention of complications. If scaled to all patients with type 1 diabetes and no ACR recorded:

**£18,995** in year 1 and  
**£533,572** in year 5

Projected savings for Brighton and Hove and High Weald Lewes and Havens CCGs

**£1,833,571** in year 1 and  
**£51,504,556** in year 5

Projected savings for NHS England

1. Assuming 86% consent rate and 79% test completion rate. Based on York Health Economics Consortium (YHEC) financial modeling and data from the 2019 National Diabetes Audit.

For more information please visit [healthy.io's website](https://www.healthy.io)