

Case Study

# Reducing health inequality with at-home kidney testing

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Groundbreaking research shows how smartphone-powered testing improved access to care by enabling people to test from home. This resulted in a significant uptake in kidney testing rates in some of the most deprived areas, and provided actionable population health insights.



Overview

1 Testing hard-to-reach, untested populations

2 Promoting health equality

3 Engaging people of all ages

4 Detecting undiagnosed cases

## Executive summary



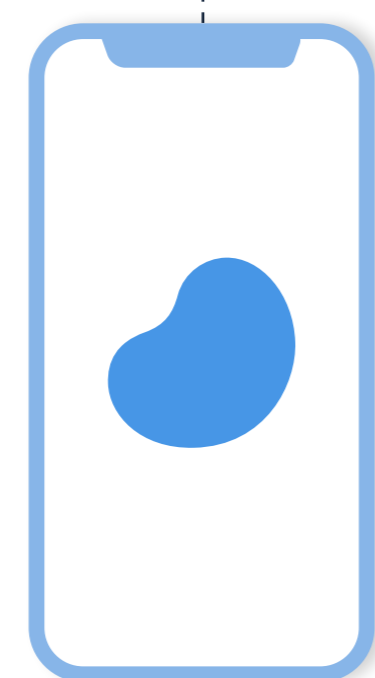
**Over 3.5 million people with diabetes in the UK** need to do an albumin-to-creatinine ratio (ACR) urine test every year. The test provides an actionable early indicator of chronic kidney disease (CKD) and is an independent risk predictor for cardiovascular events—but almost half of the at-risk population does not do the annual test.



**CKD is most prevalent in deprived areas** with minority groups at a higher than average risk. Yet adherence among the most deprived (Indices of Multiple Deprivation deciles 1-2) was 3.3% lower than that of the rest of the population.



**158,000 at-risk patients were tested** including 33,000 from the most deprived areas, helping reduce the test adherence gap between the most deprived deciles and the rest by 74%.



**By allowing people to test from home using Minuteful Kidney smartphone-powered test kits, Healthy.io increased adherence among the untested from 0% to 52%.**

# The study

How smartphone-powered kidney testing reduces health inequality across all socioeconomic groups in the UK



## IMD 1-10

Populations from the most to the least deprived areas were tested



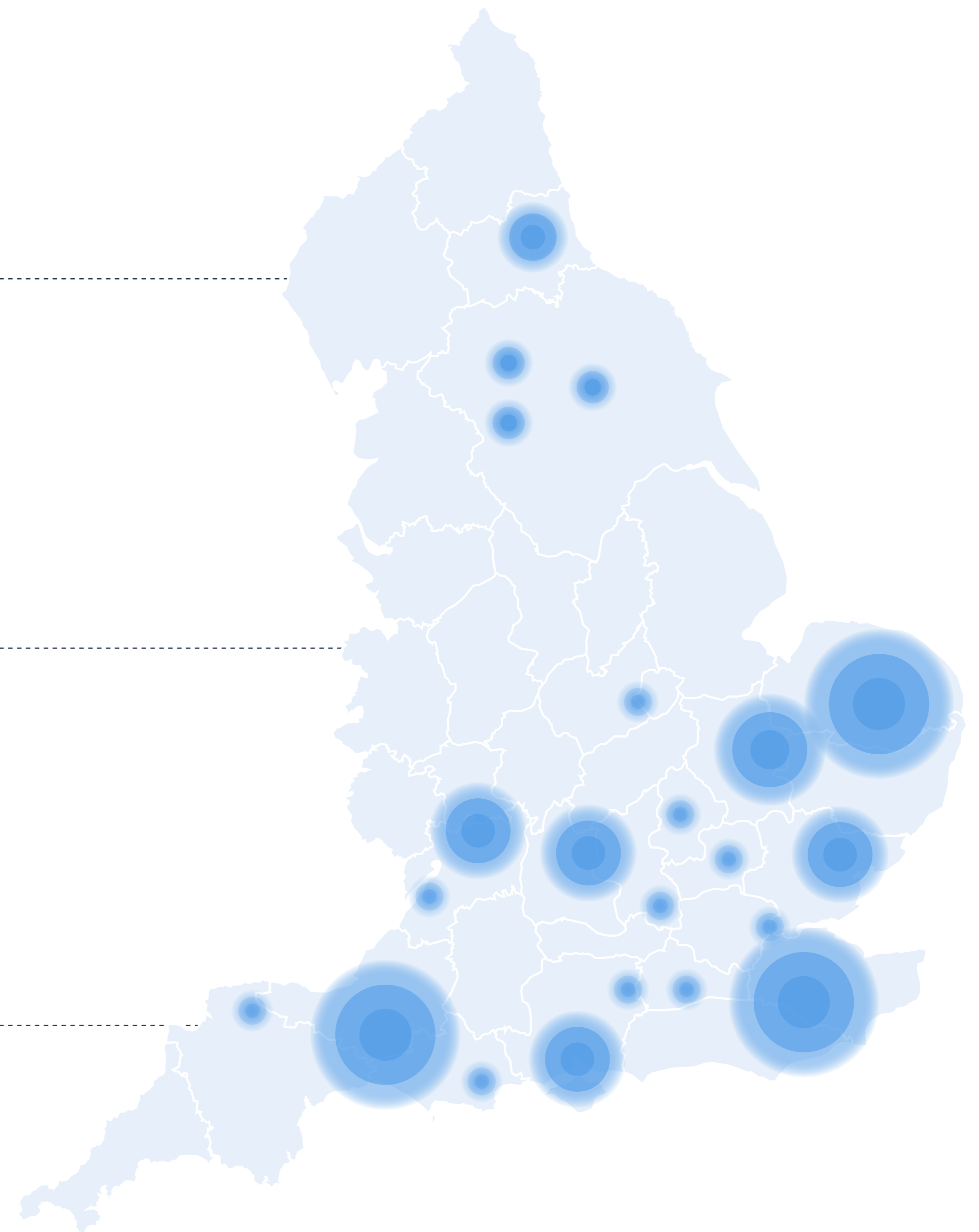
## 158,000

at-risk, previously untested patients completed the smartphone-enabled kidney test



## 21 ICSs

Integrated Care Systems (ICS) across the UK participated in the study



# Results



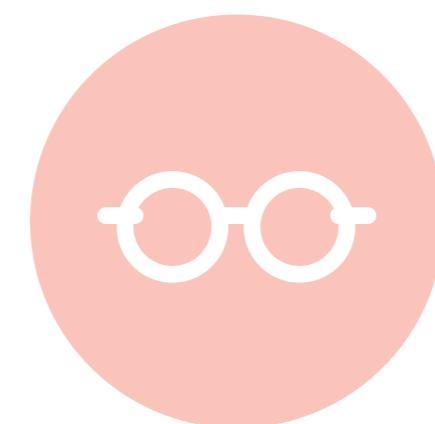
## 1 | Testing hard-to-reach, untested populations

**33,000 at-risk patients in the most deprived deciles were tested**



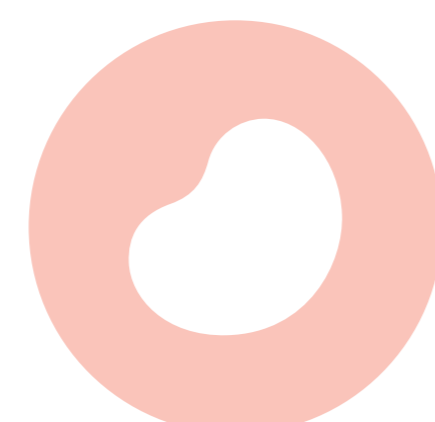
## 2 | Promoting health equality

**Test adherence climbed by 50% while the adherence gap between IMD deciles decreased by 74%**



## 3 | Engaging people of all ages

**80% of users were over 50 years old, and 30% were over 65**



## 4 | Detecting undiagnosed cases

**7% of patients in the most deprived deciles had high abnormal results, compared with 5% in other areas**

# 1 Testing hard-to-reach, untested populations

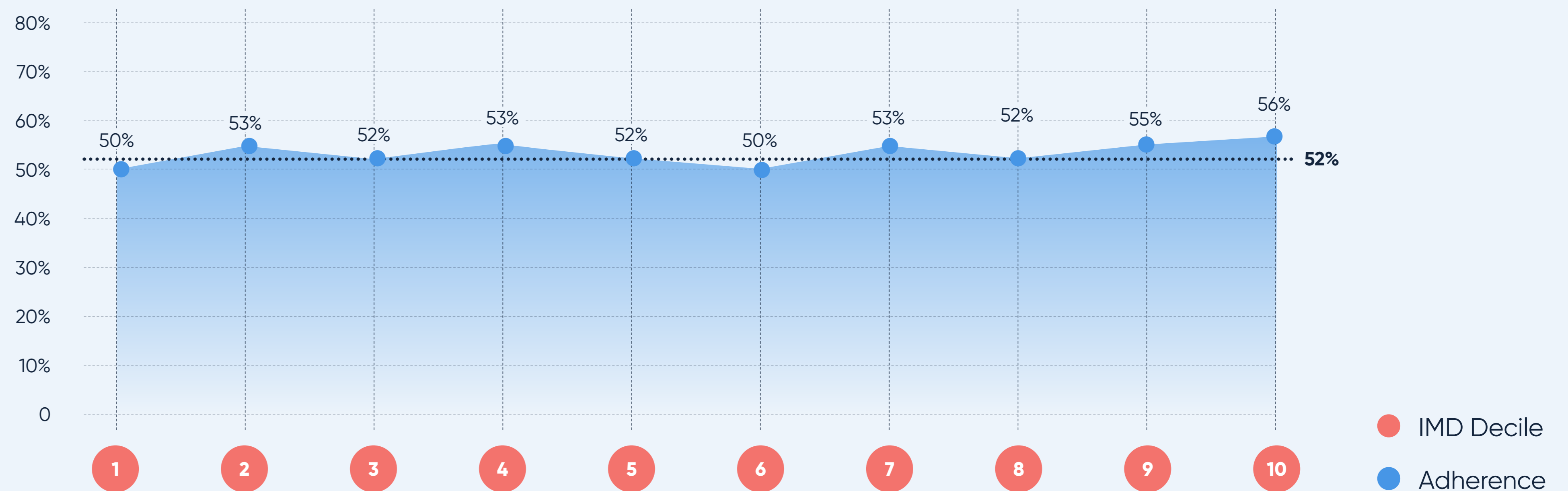
Healthy.io's remote testing technology tested 158,000 at-risk, previously untested patients, including 33,000 in the most deprived areas.

Over 45% of ICSs have adopted MinuteKidney to support early CKD identification in their communities, engaging with over 300,000 patients.

Of those, 158,000 successfully completed the test, resulting in a 52% adherence rate.

**33,000 at-risk patients from the most deprived areas in the UK (IMD deciles 1 and 2), who would have not have tested otherwise, successfully completed an ACR test.**

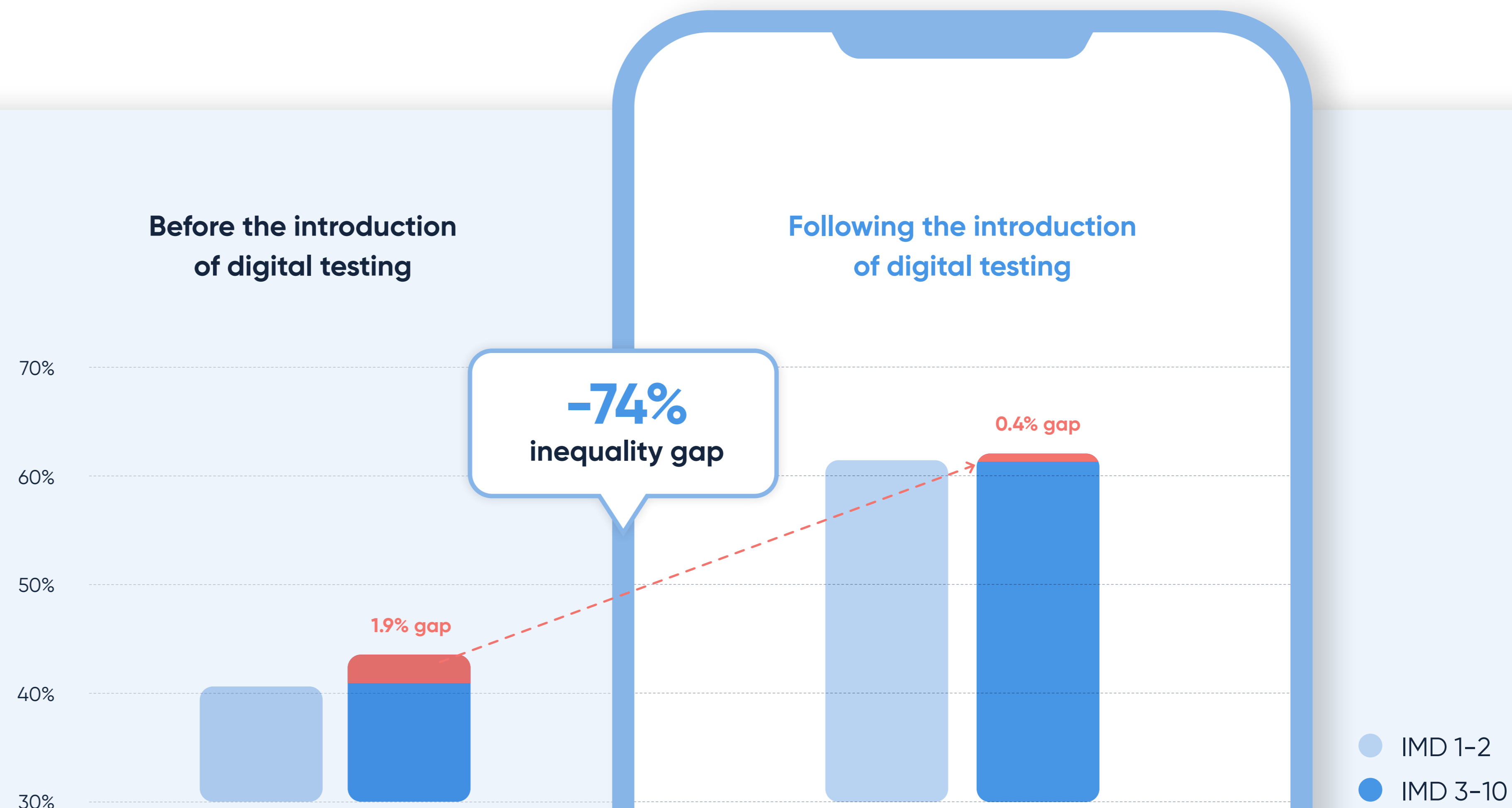
52% average adherence across IMD deciles



## 2 Promoting health equality

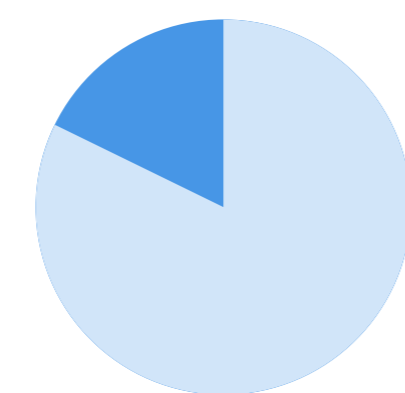
Uptake rates across the UK, including the most deprived areas, improved significantly after the introduction of digital at-home testing.

**In practices where MinuteFul Kidney was introduced, adherence climbed by 50% while the inequality gap decreased by 74%.**

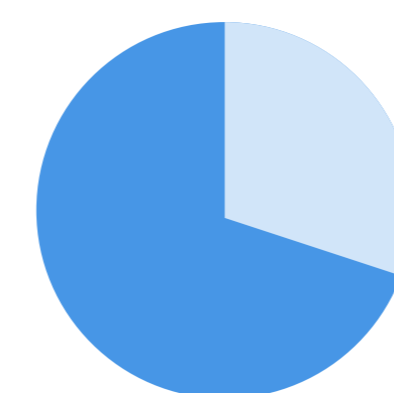


## 3 Engaging people of all ages

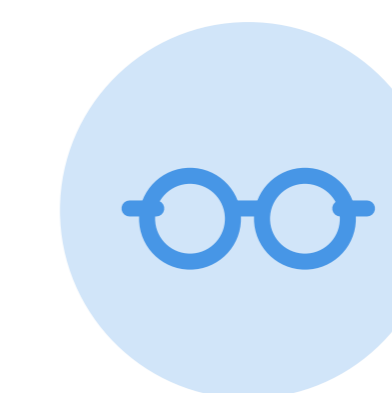
**+** **40% increase in adherence rate**  
amongst people aged 70 to 80 years



80% of users were over  
**50 years old**



30% of users were over  
**65 years old**



**104 years old**  
was the oldest age of a person to volunteer and complete the study



**It was simple, very straightforward. [It was] literally a question of following the app. Much much more simple than days gone by - the result was there within seconds. I'd say go for it: it's very simple, it's very easy to use, and you get the result literally within seconds."**

Minuteful Kidney user, Rob Clark, aged 74

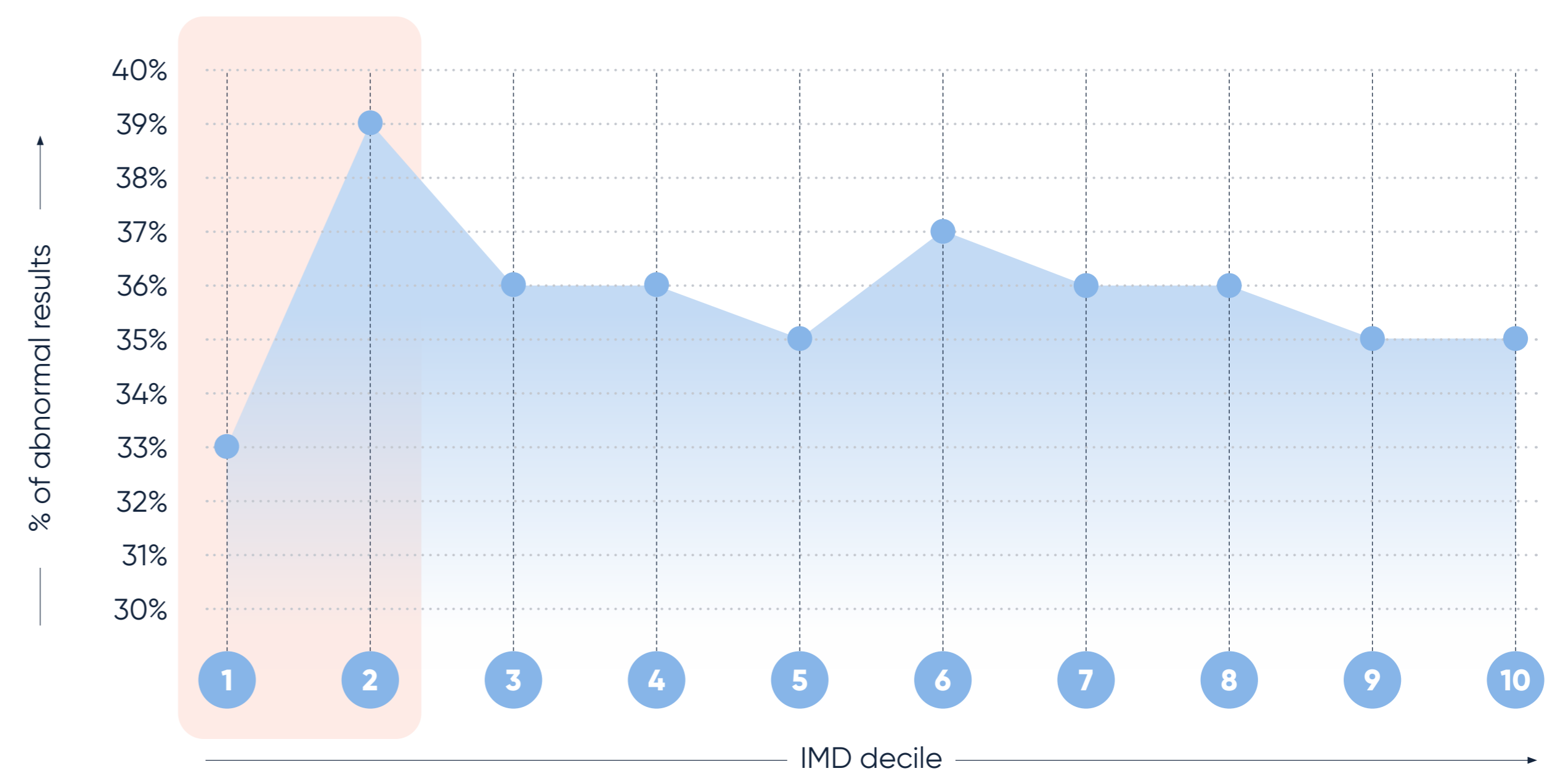
# 4 Detecting undiagnosed cases

Prevalence of abnormal ACR results was higher in the most socially deprived IMD deciles

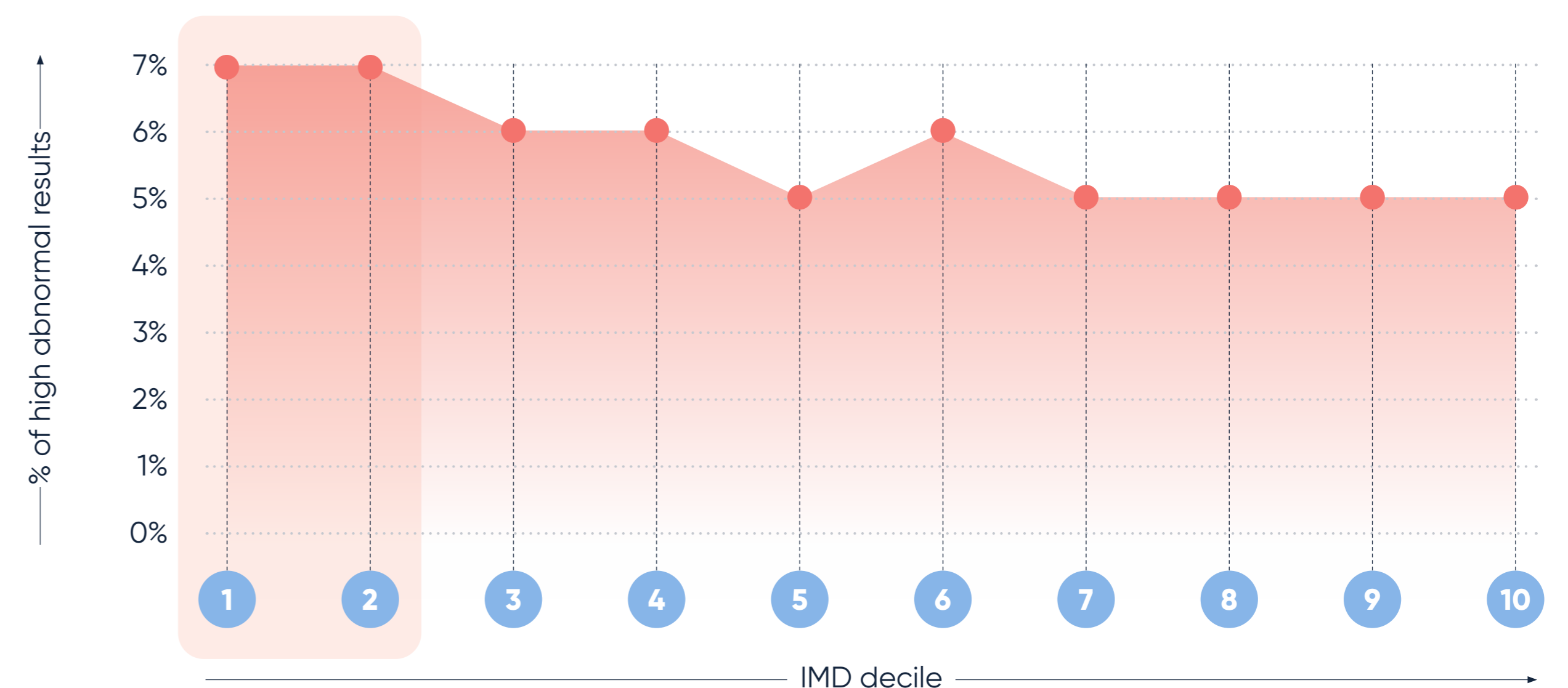
7% of patients in IMDs 1-2 had high abnormal results, compared with 5% in other areas, indicating a higher prevalence of potentially undiagnosed cases of CKD. These findings are in line with international evidence regarding prevalence of albuminuria in at-risk communities.



Distribution of abnormal results per decile



Distribution of high abnormal results per decile





# About Healthy.io

Healthy.io transforms the smartphone camera into a medical device to deliver healthcare at the speed of life. The company's at-home urinalysis and digitized wound care services enable providers and healthcare systems to close gaps in access and care while increasing patient satisfaction. Healthy.io's Minuteful Kidney service is the first and only FDA-cleared smartphone-powered home kidney test.

Healthy.io has partnered with the leading health plans in the US, the United Kingdom's National Health Service and serves over 500,000 patients worldwide.

The company is a global leader in digital health and is a recipient of the CNBC 2020 Disruptor 50 Award, Fast Company's World's Most Innovative Companies 2020 Award, and the Financial Times 2020 Boldness in Business Award. The company has offices in Boston, London, and Tel Aviv.



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