

The dialysis timebomb: Why preventing kidney disease is everyone's responsibility

Summary and call to action

To help slow the impending crisis of kidney disease in the UK, there are multiple ways to support research and patient care. A key aim is to prevent as many people with diabetes and cardiovascular disease as possible from experiencing kidney failure and slowing chronic kidney disease (CKD) progression.

Kidney Research UK asks all those involved in the management of patients living with multiple long-term conditions, including kidney disease and diabetes, to:

- Ensure all people with diabetes are receiving the 8 care processes, with a focus on **improving urinary ACR test rates** to effectively monitor kidney disease risk and progression.
- Ensure access in primary care settings for all healthcare workers to utilise the “*Primary care hacks*” for up-to-date information on pathways to aid in **identification** and **interventions** for CKD.
- Through primary care services, provide patients with tools to help manage their own conditions, including diabetes and kidney health **information prescriptions** and accessible, informative content (such as the Kidney Research UK [video on urinary ACR testing](#)).
- A **resource page** with information for healthcare professionals [can also be found here](#).

In 2023, 30 000 people in the UK relied on dialysis to stay alive. Based on projections, as many as 143 000 people could need dialysis by 2033, meaning existing NHS capacity would need to grow by almost 400% to meet essential demand.

Diabetes is a leading cause of end-stage kidney failure (Usman et al, 2021). Almost one in three people with diabetes will go on to develop kidney disease, and 18% of patients requiring dialysis have diabetic nephropathy as the primary identifiable renal disease in the UK (UK Renal Registry, 2024).

More than 7 million people are already living with kidney disease in the UK. This is over 10% of the population, and the figure is expected to rise to 7.6 million by 2033. People living with diabetes, high blood pressure, cardiovascular disease and obesity are at particular risk of developing kidney disease, and the number of people with these conditions is increasing (Kidney Research UK, 2023).

Current guidelines on managing diabetes and kidney disease

People with diabetes and high blood pressure, who are therefore at risk of developing kidney disease, are principally managed in primary

care. This creates an opportunity to intervene and prevent progression to kidney disease through management of blood pressure, cardiovascular risk and lifestyle factors (de Lusignan et al, 2013; Hull et al, 2018). [NICE \(2021\) NG203 guidelines](#) state that testing for chronic kidney disease (CKD) should be carried out in at-risk populations, including those with diabetes, cardiovascular disease and hypertension. The results of these eGFR and urinary ACR tests can be utilised to evaluate risk and code CKD accordingly, and both measures should be carried out and recorded as part of the 8 key care processes for people with diabetes.

A useful review that identifies barriers and enablers to the effective detection, diagnosis, disclosure and management of CKD in primary care has been published by Dr Stuart Stewart, a GP and Kidney Research UK-funded researcher undertaking a PhD in Epidemiology, and is [available here](#) (Stewart et al, 2024).

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Box 1. Three key actions within 3 months to save lives (3 in 3) (London Kidney Network, 2024).

In adults with type 2 diabetes and CKD (eGFR 20–90 mL/min/1.73 m²):

Action 1 (Month 1)

Maximum intensity RAS/RAAS blockade:

- Start ACE inhibitor or ARB and titrate to maximum tolerated licensed dose (NICE, NG203) within 1 month.
- Ensure the patient is on a high-intensity statin, unless contraindicated.

Action 2 (Month 2)

Initiate SGLT2 inhibitor according to NICE guidance:

- Consider/counsel on risks of diabetic ketoacidosis (which may be euglycaemic), sick day rules, risk of UTI/fungal infections.
- Consider adjusting sulfonylureas/insulin where eGFR is >45 mL/min/1.73 m² and HbA_{1c} is <58 mmol/mol (7.5%) to mitigate risk of hypoglycaemia.

Action 3 (Month 3)

Initiate further blood pressure (BP) agent to target <140/90 mmHg, unless urine ACR is >70 mg/mmol (if so, target should be 120–129/80 mmHg):

- If BP remains above target, initiate second-line BP agents as per NICE NG203/NG136 guidance.
- Consider finerenone as add-on therapy in patients with an eGFR of 25–60 mL/min/1.73 m², urine ACR >3 mg/mmol and potassium <5 mmol/L.

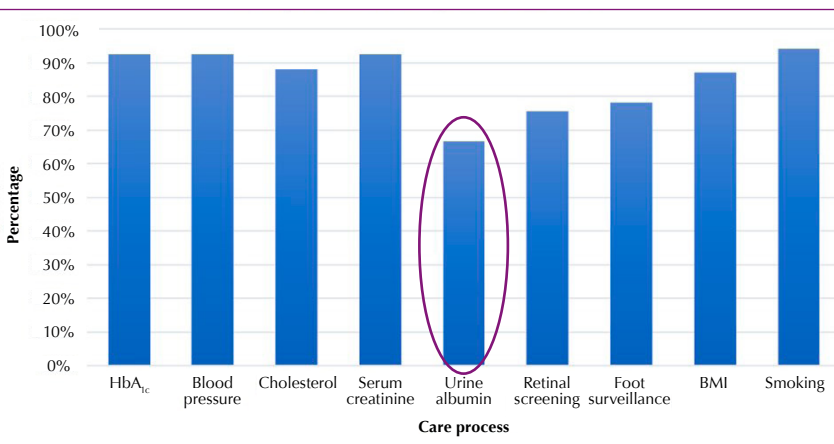


Figure 1. The percentage of individual care processes of people with type 2 diabetes completed in 2022–23. Urinary ACR remains the care process with lowest completion rate recorded, at 68%. Data taken from NHS England (2023); graph created by Diabetes UK.

The “3 within 3” concept

The London Kidney Network (2024) has developed guidance for care optimisation in people living with type 2 diabetes and CKD after reviewing multiple NICE guidelines. The concept of “3 within 3” highlights three key actions to take within 3 months of diagnosis to save lives (Box 1). These actions involve initiation of RAS/RAAS blockade in month 1, followed

by SGLT2 inhibitor treatment (according to NICE guidance) in month 2, and a further blood pressure agent, if required, in month 3. [More detail and information can be found here.](#)

To support this concept, GP Kevin Fernando, alongside other primary care and renal consultants, has presented the “Primary care hacks” which detail the methods for both [identification of CKD](#) in primary care and [CKD interventions](#) in primary care according to the available recommendations and guidance.

The [Kidney Failure Risk Equation](#) is a validated tool, recommended by NICE (2021). When inputted into the risk calculator, the results from both eGFR and urinary ACR tests determine the 2-year and 5-year risk of treated kidney failure (dialysis or transplantation) for patients with CKD stages 3a to 5. This equation allows for robust discussion between healthcare professionals and patients, and allows personalisation of treatment.

Urinary ACR testing – The missed diabetes care process

The latest National Diabetes Audit suggests that, depending on location, only 16.3–56.3% of people with type 1 diabetes, and 26.1–63.0% of people with type 2 and other diabetes types, were receiving all 8 care processes for diabetes management (NHS England, 2023). These results present an opportunity to address health inequalities and to utilise resources to minimise the risk of complications associated with diabetes.

Urinary ACR testing levels dropped dramatically after their removal from the Quality and Outcomes Framework in 2015/16 (Stewart et al, 2024). The levels of ACR testing, as with the other care processes, dropped during the COVID-19 pandemic but, importantly, rates still have not recovered to pre-COVID-19 levels, with only 49.8% of people with type 1 diabetes and 60.7% of those with type 2 and other diabetes receiving urine ACR testing in England and Wales (Figure 1) (NHS England, 2023).

Why is ACR testing important?

Urine ACR testing is critical in early diagnosis and coding of CKD. It is not interchangeable with the other renal care process, eGFR. The combination of both eGFR and urinary ACR testing improves both the “false positive” and



Video 1. The importance of a urine ACR test (click on video to watch on YouTube).

“false negative” rates which can occur when eGFR is used alone (Glasscock and Winearls, 2008). When utilised together, the two values provide an important classification of kidney disease, as well as suggesting a disease monitoring schedule (Fung et al, 2017; NICE, 2021).

To support patients to ensure that urine ACR testing is completed at their check-ups, Kidney Research UK, together with Dr Kevin Fernando, produced a video for patients and healthcare professionals to explain the importance of these tests to monitor kidney health (see [Video 1](#)). For ACR testing to take place requires understanding from patients and all primary care professionals to ensure that the tests are undertaken correctly; charities are supporting patients to understand the importance of this vital test of kidney health.

What are charities doing to help?

As the leading funder of renal research, Kidney Research UK offers grants for both clinical and non-clinical research opportunities to transform the lives of those living with kidney disease. Kidney Research UK is keen to fund research in primary care and encourage earlier diagnosis of kidney disease.

We published [Kidney disease: A UK public health emergency](#) in 2023. This report sets out the current health-economic implications of kidney disease and provides projections to 2033. It provides clear evidence that kidney disease should be a priority for governments and the NHS, and calls for implementation of specific healthcare interventions to save lives.

The report also demonstrates the potential impact of earlier diagnosis, equitable access to healthcare and better management of kidney disease, including the use of SGLT2 inhibitors. It estimated that the combined impact of all these interventions could reduce the number of deaths

Box 2. Summary of quotes from people living with multiple long-term health conditions, helping to guide collaborative research workshops.

- “I didn’t know that I had [kidney disease] until I was told that I would need dialysis.”
- “Managing finger pricks and insulin was relatively easy compared to end stage renal failure/dialysis.”
- “If HCP doesn’t ask for urine, it can’t be that important [like blood tests] and thus isn’t relevant to me.”
- “There are very limited resources to help with the mental health problems that come with both of these diseases.”
- “Feels like developing a complication is my fault.”

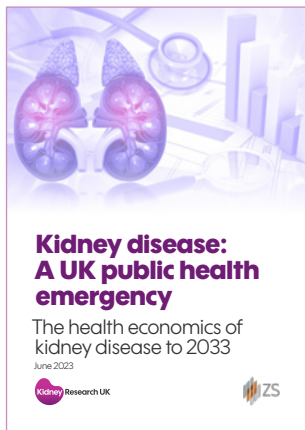
by 10 495 over the 10-year period. Additionally, were the suggestions in the report to be fully implemented, more than 2500 cardiovascular disease (CVD) events would be prevented (Kidney Research UK, 2023).

Charities play a vital role in advocating for patient interests and involving patients in all stages of research, to ensure that their perspectives are embedded. Kidney Research UK, alongside Diabetes UK and Breakthrough T1D (formerly JDRF), held a diabetes and kidney disease workshop alongside a community of researchers, clinicians and patients. The aim of this project was to highlight potential opportunities for future research, and to ensure translation of that research into patient benefit, putting those with lived experience of both diabetes and kidney disease at the heart of the project. Next steps will include publication of outcomes from the workshop to accelerate research and champion co-ordinated care of people with multiple long-term conditions. [Read more about this workshop here.](#)

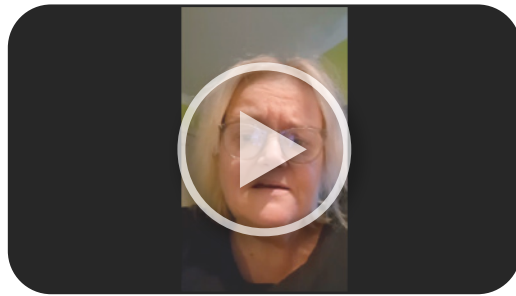
Learning from patient experience

The workshop provided a forum for patient involvement to draw attention to the challenges experienced when living with multiple long-term conditions (mLTCs), including kidney disease. Public and patient involvement in research was reported in only 20.6% of papers globally, despite being critical to addressing issues relevant to patients and gaining valuable insights into lived experiences to give meaningful outcomes (Lang et al, 2022).

The patient comments from the research workshop in *Box 2* emphasise the key areas of improvements in care that are needed from a patient perspective and will be summarised in



[Click here to read the full report](#)



Video 2. Angela's experience of living with diabetes and chronic kidney disease culminating in end-stage renal failure (click on video to watch).

the publication of outcomes. Patient Angela shared her story on the lack of information given to her surrounding the risk to her kidneys as a person with diabetes, with an insight into the harsh reality of navigating life with diabetes and end-stage renal failure (see [Video 2](#)). Her story highlights the importance of testing for kidney disease to allow earlier diagnosis. Previous research has shown that people with conditions that confer cardiovascular risk, such as diabetes and CKD, are often unaware of their risk status and are not empowered to self-manage their mLTCs (Hsiao, 2018; Wilkinson et al, 2021; Elnaem et al, 2021).

Research grants in primary care

Kidney Research UK is keen for healthcare professionals working within primary care to apply for our available research grants. Primary care professionals have a critical role in making kidney health equal for all and are uniquely placed to gather and analyse insights at a community level to drive change in mLTC research. More information on available grants can be found on our website, and we welcome suggestions for research through our open-door policy.

About Kidney Research UK

Kidney Research UK is the leading charity in the UK focused on funding research into the prevention, treatment and management of kidney disease.

We work with clinicians and scientists across the UK, funding and facilitating research into all areas of kidney disease and we collaborate with partners across the public, private and third sectors. We lobby governments and decision makers to change policy and practice to ensure that the estimated 7.2 million people living with kidney disease in the UK have access to the most effective care and treatment, and to make kidney disease a priority.



kidney disease ends here.

Registered charity no. 252892. Scottish charity no. SC039245.

For any correspondence regarding this article and the work at Kidney Research UK, please email multiplehealthconditions@kidneyresearchuk.org.

We welcome correspondence relating to collaboration and co-funding opportunities in all areas relating to multiple health conditions. ■

- de Lusignan S, Gallagher H, Jones S et al (2013) Audit-based education lowers systolic blood pressure in chronic kidney disease: The Quality Improvement in CKD (QICKD) trial results. *Kidney Int* **84**: 609–20
- Elnaem MH, Elrgal ME, Syed N et al (2021) Knowledge and perceptions towards cardiovascular disease prevention among patients with type 2 diabetes mellitus: A review of current assessments and recommendations. *Curr Diabetes Rev* **17**: 503–11
- Fung CS, Wan EY, Chan AK, Lam CL (2017) Association of estimated glomerular filtration rate and urine albumin-to-creatinine ratio with incidence of cardiovascular diseases and mortality in Chinese patients with type 2 diabetes mellitus – a population-based retrospective cohort study. *BMC Nephrol* **18**: 47
- Glasscock RJ, Winearls C (2008) Screening for CKD with eGFR: Doubts and dangers. *Clin J Am Soc Nephrol* **3**: 1563–8
- Hsiao LL (2018) Raising awareness, screening and prevention of chronic kidney disease: It takes more than a village. *Nephrology (Carlton)* **23**(Suppl 4): 107–11
- Hull SA, Nitsch D, Caplin B et al (2018) The National CKD Audit: A primary care condition that deserves more attention. *Br J Gen Pract* **68**: 356–7
- Kidney Research UK, 2023. *Kidney disease: A UK public health emergency*. Available at: <https://bit.ly/3XDFatj>
- Lang I, King A, Jenkins G et al (2022) How common is patient and public involvement (PPI)? Cross-sectional analysis of frequency of PPI reporting in health research papers and associations with methods, funding sources and other factors. *BMJ Open* **12**: e063356
- London Kidney Network (2024) *LKN CKD Early Identification and Optimisation Pathways (3 in 3)*. Available at: <https://bit.ly/4dd4YIG>
- NHS England (2023) *National Diabetes Audit Core Report 1: Care Processes and Treatment Targets 2022–23, Underlying data*. Available at: <https://bit.ly/47E2hbC>
- NICE (2021) *Chronic kidney disease: assessment and management [NG203]* Available at: <https://www.nice.org.uk/guidance/ng203>
- Stewart S, Kalra PA, Blakeman T et al (2024) Chronic kidney disease: Detect, diagnose, disclose – a UK primary care perspective of barriers and enablers to effective kidney care. *BMC Med* **22**: 331
- Usman M, Khunti K, Davies MJ, Gillies CL (2021) Association and relative importance of multiple risk factor control on cardiovascular disease, end-stage renal disease and mortality in people with type 2 diabetes: A population-based retrospective cohort study. *Prim Care Diabetes* **15**: 218–26
- UK Renal Registry (2024) *UK Renal Registry 26th Annual Report – data to 31/12/2022*. Available at: <https://bit.ly/3BdYzCF>
- Wilkinson TJ, Memory K, Lightfoot CJ et al (2021) Determinants of patient activation and its association with cardiovascular disease risk in chronic kidney disease: A cross-sectional study. *Health Expect* **24**: 843–52