

Systematic Review of Determinants and Management Challenges to Chronic Kidney Disease (CKD) among Adults in the United Kingdom

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Prevalence

Public Health Issue

In the public health context, prevalence of CKD is measured through both health and social care settings (Burgos-Calderón et al., 2021).

Risk Factors

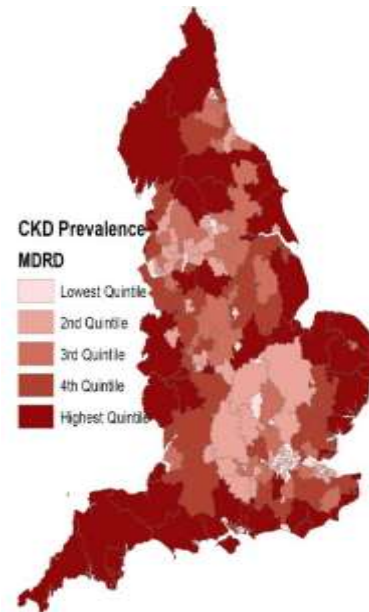
- In healthcare settings, several chronic conditions (cardiovascular disorders, diabetes, hypertension and others) increase the risk of kidney failure (Cook et al., 2023).
- Health inequalities and racial minorities have a high prevalence in causing CKD among adults in the social context (Kovesdy, 2022).

Diagnosis Limitation

Being part of health inequalities, low socio-economic status creates barriers for the UK people to access primary care for CKD (Kidney Research UK, 2018).

Numbers of Affected People

- As a global public health problem CKD increases the rate of cardiovascular mortality which mostly affects adults aged 75 years or over (NHS, 2024).
- In England, 2.6 million people aged over 18 years and older live in stages 3 to 5 of CKD (Public Health England, 2026).



Research Question

What are the key risk factors, determinants and challenges for managing Chronic Kidney Disease (CKD) among UK adults?

Research Aim

To explore the major determinants, risk factors and management challenges related to the risk and impact of Chronic Kidney Disease (CKD) among adults in the UK.

Research Objectives

- To identify the primary biological and lifestyle risk factors related to Chronic Kidney Disease.
- To explore socioeconomic and environmental determinants that influence CKD prevalence among UK adults.
- To review public health strategies and healthcare interventions to prevent CKD and manage its negative consequences in health and social care settings.
- To provide strategic recommendations for the diagnosis and treatment of CKD along with delivering quality healthcare services to UK people.

PEOPLE FROM BAME POPULATIONS ARE LESS LIKELY TO RECEIVE KIDNEY TRANSPLANTS



35% waiting for a kidney transplant are from BAME communities
7.2% on the NHS Organ Donor Register are from BAME communities

Rationale of the Research

- ❖ CKD is a public health emergency in the UK (Kidney Research UK, 2023).
- ❖ Around 3.25 million of the UK people live with CKD and it primarily affects the ageing population (Kidney Research UK, 2023).
- ❖ The research intends to highlight key barriers to delivering effective CKD care to adults in the UK.
- ❖ Due to the high risk of kidney disease, the current UK economic burden is expected to increase to £13.9 billion within the next 10 years (Kidney Research UK, 2023a).
- ❖ From the overmedicalisation of clinicians to their lack of awareness creates difficulties in diagnosing this serious health problem (Stewart et al., 2024).
- ❖ The urgency of the research is to explore the burden of CKD and its emergency for improving healthcare accessibility among UK adults.
- ❖ Limited studies discovered that socio-economic and healthcare inequalities have an adverse impact on CKD management regarding the UK public health and social care setting.
- ❖ For example, adults' lifestyle-related conditions increase the progression of CKD prevalence and evaluate adverse outcomes (Grant et al., 2023)
- ❖ Therefore, the research helps to point out the burden of this public health emergency and synthesise its adverse impact among UK adults who require urgent intervention.



Research Impact

Target Population: This research will be beneficial for the UK adults to enhance patients' self-management practice regarding CKD (NICE, 2021).

Public Health Care Service

- ❖ It will explore the necessity of CKD treatment for reducing healthcare costs and strengthening public health practices.
- ❖ The CKD screening is an effective measurement which prevents the emergence of kidney diseases like failure (Li et al., 2020).

Social Care Programmes: The research will outline social care importance for minimising impact of the identified public health burden (Stewart et al., 2024).

HSC Professionals and Policies

- ❖ Evidence-based health outcomes improve primary care and facilitate HSC intervention (McGregor et al., 2018).
- ❖ By acquiring underlying conditions, HSC professionals guide people how to minimise risk of CKD (NHS, 2023).

References

- Burgos-Calderón, R., Depine, S.Á. and Aroca-Martínez, G. (2021) Population kidney health. A new paradigm for chronic kidney disease management. *International journal of environmental research and public health*, 18(13), p.6786.
- Cook, S., Schmedt, N., Broughton, J., Kalra, P.A., Tomlinson, L.A. and Quint, J.K. (2023) Characterising the burden of chronic kidney disease among people with type 2 diabetes in England: a cohort study using the Clinical Practice Research Datalink. *BMJ open*, 13(3), p.e065927.
- Grant, C.H., Salim, E., Lees, J.S. and Stevens, K.I. (2023) Deprivation and chronic kidney disease—a review of the evidence. *Clinical Kidney Journal*, 16(7), pp.1081-1091.
- Kidney Research UK (2018) *KIDNEY HEALTH INEQUALITIES IN THE UK*. Available at: https://www.kidneyresearchuk.org/wp-content/uploads/2019/09/Health_Inequalities_lay_report_FINAL_WEB_20190311.pdf (Accessed: 01 March 2026).
- Kidney Research UK. (2023) *Kidney disease: A UK public health emergency*. Available at: https://www.kidneyresearchuk.org/wp-content/uploads/2023/06/Economics-of-Kidney-Disease-full-report_accessible.pdf (Accessed: 01 March 2026).
- Kidney Research UK. (2023a) *Kidney disease is a public health emergency that threatens to overwhelm the NHS, major new report reveals*. Available at: <https://www.kidneyresearchuk.org/2023/06/05/kidney-disease-is-a-public-health-emergency-that-threatens-to-overwhelm-the-nhs-major-new-report-reveals/> (Accessed: 01 March 2026).
- Kovesdy, C.P. (2022) Epidemiology of chronic kidney disease: an update 2022. *Kidney international supplements*, 12(1), pp.7-11.
- Li, P.K.T., Garcia-Garcia, G., Lui, S.F., Andreoli, S., Fung, W.W.S., Hradsky, A., Kumaraswami, L., Liakopoulos, V., Rakhimova, Z., Saadi, G. and Strani, L. (2020) Kidney health for everyone everywhere: from prevention to detection and equitable access to care. *Canadian Journal of Kidney Health and Disease*, 7, p.2054358120910569.
- McGregor, J., Mercer, S.W. and Harris, F.M. (2018) Health benefits of primary care social work for adults with complex health and social needs: a systematic review. *Health & social care in the community*, 26(1), pp.1-13.
- NHS (2023) *Prevention: Chronic Kidney Disease*. Available at: <https://www.nhs.uk/conditions/kidney-disease/prevention/> (Accessed: 01 March 2026).
- NHS (2024) *Health Survey for England, 2022 Part 2*. Available at: <https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2022-part-2/kidney-disease> (Accessed: 01 March 2026).
- NICE (2021) *Chronic kidney disease: assessment and management*. Available at: <https://www.nice.org.uk/guidance/ng203/chapter/recommendations> (Accessed: 01 March 2026).
- Public Health England (2026) *Chronic kidney disease prevalence model*. Available at: https://assets.publishing.service.gov.uk/media/5a82c379e5274a2e8ab593af/Chronic_kidney_disease_CKD_prevalence_model_briefing.pdf (Accessed: 01 March 2026).
- Stewart, S., Kalra, P.A., Blakeman, T., Kontopantelis, E., Cranmer-Gordon, H. and Sinha, S. (2024) Chronic kidney disease: detect, diagnose, disclose—a UK primary care perspective of barriers and enablers to effective kidney care. *BMC medicine*, 22(1), p.331.
- Stewart, S., Kalra, P.A., Blakeman, T., Kontopantelis, E., Cranmer-Gordon, H. and Sinha, S. (2024) Chronic kidney disease: detect, diagnose, disclose—a UK primary care perspective of barriers and enablers to effective kidney care. *BMC medicine*, 22(1), p.331.

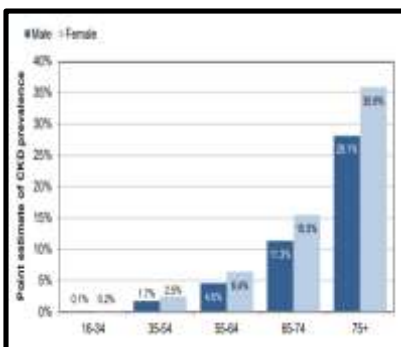


Figure: CKD stages prevalence in England
(Source: Public Health England, 2026)

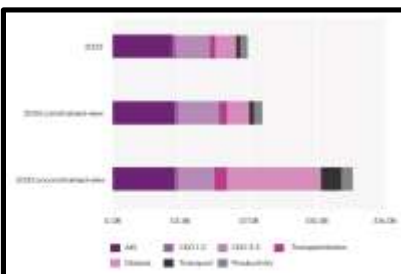


Figure: Economic burden of CKD in the UK
(Source: Kidney Research UK, 2023)