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REVIEW ARTICLES

Chronic kidney disease – a major public health problem

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ABSTRACT

Introduction. Chronic kidney disease (CKD) is a major and growing global public health problem, contributing to significant morbidity, mortality, and financial strain on healthcare systems. Despite available preventive measures, CKD often remains underdiagnosed and insufficiently addressed by health policies worldwide.

Materials and methods. A literature review was conducted using the MEDLINE electronic database via PubMed, Scopus, and the HINARI (Research4Life) program, focusing on studies published since 2001. Search terms included "primary care", "chronic kidney disease", "chronic kidney disease public health", and "chronic kidney disease costs". Original articles, meta-analyses, and systematic reviews were included, with English-language articles prioritized. Bibliographic references of selected publications were also examined to identify additional relevant studies.

Results. CKD affects approximately 700-850 million people globally, with rising prevalence and mortality rates, especially in low- and middle-income countries. The disease disproportionately burdens vulnerable populations and health systems due to high direct and indirect costs, particularly for advanced-stage care. While cost-effective prevention and early detection strategies are available, their implementation is uneven, and policy responses have historically lagged. Successful national initiatives demonstrate that early intervention and integrated care can reduce the incidence and economic impact of end-stage kidney disease.

Conclusions. CKD is a preventable, yet increasingly prevalent disease that requires urgent public health action. Prioritizing early detection, integrated care models, and policy reforms can significantly curb its global burden. Coordinated efforts at international, national, and local levels are essential to translate existing knowledge into effective practice and reduce the societal and financial costs of CKD.

Keywords: chronic kidney disease, global health, prevention, early detection, health policy, economic burden, integrated care, public health.

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Key messages

What is not yet known on the issue addressed in the submitted manuscript

The optimal strategies for global implementation of early CKD detection and prevention remain inadequately defined.

The research hypothesis

Strengthening early detection and prevention policies can reduce CKD burden and associated healthcare costs globally.

The novelty added by the manuscript to the already published scientific literature

It synthesizes global CKD burden data with policy gaps, highlighting cost-effective interventions and successful country models. It synthesizes global CKD burden data with policy gaps, highlighting cost-effective interventions and successful country model.

Introduction

Chronic kidney disease (CKD) is a progressive loss of kidney function over months to years, often culminating in end-stage kidney disease that requires dialysis or transplantation. It is typically defined by a sustained reduction in glomerular filtration rate (GFR <60 mL/min/1.73 m^2) or markers of kidney damage (e.g. proteinuria) persisting for at least 3 months [1]. CKD is usually asymptomatic in early stages, and many patients remain undiagnosed until significant loss of kidney function has occurred. This insidious course, combined with its widespread prevalence and severe outcomes, has established CKD as a major public health concern. An issue qualifies as a public health problem when it imposes a large and growing disease burden (mortality, morbidity, reduced quality of life, and high costs), disproportionately affects vulnerable populations, and lacks fully effective preventive strategies. CKD meets all of these criteria: it is common and increasing worldwide, leads to substantial premature mortality and disability, incurs enormous healthcare costs, and yet remains under-recognized and insufficiently addressed by health systems [2]. In this article, we review the global burden of CKD, the financial and societal impact of the disease, and current health policy responses and initiatives aimed at CKD prevention and management. We also discuss the need for strengthened policies and health system reforms to curb the growing CKD epidemic.

Material and methods

A search of scientific papers published since 2001 in the MEDLINE electronic database was performed using the search engine PubMed, Scopus and HINARI (Health InterNetwork Access to Research Initiative) – Research4Life program, selecting full-text articles provided by these platforms. The search terms used (in English) were: „primary care", „chronic kidney disease", „chronic kidney disease public health", "chronic kidney disease costs". Original articles, meta-analyses and systematic reviews were selected. No language limits were set, but articles in English were prioritized. Additionally, the bibliography of the selected articles was studied, in order to find other articles relevant to this topic.

Results and discussion

Global Burden of CKD. Prevalence and trends

CKD affects an estimated 700-850 million people worldwide, roughly 9-10% of the global population [1]. Global prevalence has risen significantly over the past decades, in part due to population aging and the growing prevalence of risk factors such as diabetes, hypertension, and obesity. Between 1990 and 2017, the all-age prevalence of CKD increased by about 29% [1]. By 2017 there were approximately 697 million cases of CKD (stages 1-5) globally, and recent estimates put the number of people with kidney diseases (including earlier-stage CKD) as high as 850 million. Prevalence is strongly age-dependent – CKD is present in over one-third of individuals above 65 years old in some regions [3, 4]; and is often higher in women than men, although severity tends to be greater in men. Notably, the burden of CKD is distributed unevenly across the world. Over two-thirds of the global CKD cases are in low- and middle-income countries (LMICs) [5], where access to early diagnosis and treatment is limited. As a result, the vast majority of people living with CKD in resource-poor settings are unaware of their condition [5]. Studies indicate that as many as 9 in 10 individuals with CKD in low-resource environments remain undiagnosed and untreated [5]. This under-diagnosis leads to a silent progression of disease in the population and reflects a major gap in healthcare delivery.

Mortality and outcomes

The consequences of CKD in terms of mortality and morbidity are severe. Global deaths attributable to CKD have been rising steadily. In 2017, an estimated 1.2 million people died from CKD complications worldwide [1]. By 2021, annual CKD deaths reached approximately 1.5 million. Unlike many other major non-communicable diseases (NCDs) which have seen improvements, CKD is unique in that its age-adjusted mortality continues to increase. It is currently the only major NCD with a rising mortality rate globally [5]. Over the past two decades, CKD climbed from the 17th to the 10th leading cause of death worldwide, and it is now recognized as the third fastest-growing cause of death [5]. Projections are alarming – by 2040, CKD is expected to rank as the 5th leading cause of years of life lost globally, reflecting both high mortality and the younger age at which some CKD deaths occur. The burden of CKD is also magnified by its strong link to cardiovascular disease. Patients with CKD have a markedly elevated risk of cardiovascular morbidity and mortality; CKD acts as a "risk multiplier" in individuals with hypertension or diabetes [1]. Most CKD patients are far more likely to die of cardiovascular causes (such as heart attacks or strokes) before ever progressing to end-stage renal disease. In fact, even mild to moderate reductions in kidney function are associated with heightened risks of all-cause and cardiovascular death. CKD also significantly worsens quality of life due to symptoms like fatigue, anemia, bone and mineral disorders, and depression in advanced stages [6]. Thus, the global burden of CKD encompasses not only those who reach kidney failure, but also millions who suffer disability or die prematurely from CKD and its complications.

Disparities and regional patterns

There are pronounced disparities in CKD outcomes both between and within countries. Economically disadvantaged populations and ethnic minorities often face higher CKD incidence and worse outcomes, reflecting the interplay of risk factors and access to care [2]. For example, indigenous communities and African-ancestry populations in various countries experience higher rates of CKD progression and end-stage renal disease, partly due to higher burden of diabetes/hypertension and reduced access to preventive care. Globally, patients in low-income countries frequently present with more advanced CKD or kidney failure and have limited access to life-saving renal replacement therapy. It is estimated that millions of people develop kidney failure every

year but die without receiving dialysis or transplant, due to lack of access [5]. Even in high-income countries, about 15-20% of patients initiating dialysis die within one. In poorer regions, outcomes are far worse: "millions more" who need dialysis or transplant are simply unable to obtain it and succumb prematurely. Virtually all of these untreated kidney failure deaths occur in low- and lower-middle-income countries. These grim statistics highlight CKD as a global health emergency that has not yet received commensurate policy attention. While international targets for reducing NCD deaths focus on cardiovascular disease, cancer, diabetes, and chronic lung disease, CKD has historically been neglected in global health strategies [2, 5]. The rising prevalence and mortality of CKD, and its disproportionate impact on vulnerable populations, clearly underscore the need for urgent public health action.

Financial and societal burden of CKD

Beyond its health toll, CKD imposes an enormous economic and societal burden on patients, healthcare systems, and societies at large. Direct healthcare costs associated with CKD are substantial at all stages and skyrocket for patients who progress to kidney failure. Management of early-stage CKD (with medications, monitoring, and treating comorbidities) is relatively cost-effective, but once patients require dialysis or transplantation – collectively known as kidney replacement therapy (KRT) – the expenses are among the highest in medicine. Annual treatment costs per patient on dialysis often range from US$50,000 to $100,000 in high-income countries [7], far exceeding the costs in earlier CKD stages (by a factor of nearly 20 in some estimates). Even transplantation, which is more cost-effective in the long run, involves high upfront costs (approximately $75,000 in the first year, and ~$17,000 per year thereafter for immunosuppression and follow-up) [7]. These per-patient costs translate into a massive aggregate burden.

At the health system level, CKD and kidney failure care consume a disproportionately large share of resources. For example, in the United States, people with kidney failure constitute <1% of Medicare beneficiaries but account for over 6% of total Medicare spending [8, 9]. In 2021, Medicare spending on CKD patients aged ≥65 was $76.8 billion, which represented one quarter of all Medicare expenditures for that age group [1]. This illustrates how expensive CKD care can be, even in a wealthy country. The costs are rising as CKD prevalence grows – in the U.S., Medicare costs for CKD increased by 40% between 2011 and 2021. Other countries face similar challenges: in China, the annual economic burden of CKD is projected to climb from $179 billion in 2019 to $198 billion by 2025 [1]. A recent multi-country analysis of 31 nations (across Americas, Europe, Middle East, and Asia-Pacific) found that direct costs of diagnosed CKD and KRT will increase by about 9.3% from 2022 to 2027, reaching an estimated $407 billion across these countries [10]. By 2027, CKD is expected to consume an average of 6.4% of total health expenditures in those countries, up from 5.6% in 2022 [10]. This rising cost trajectory is unsustainable for many health systems. Particularly striking is the concentration of costs in advanced CKD: although patients receiving dialysis or transplant will comprise only ~5% of all diagnosed CKD cases in 2027, they are projected to account for nearly 46% of total CKD-related healthcare costs [10]. This imbalance highlights that late-stage CKD care (dialysis and transplant) is extremely costly, and that strategies focusing on earlier intervention could yield major cost savings.

Indirect costs and societal impact

CKD's burden extends beyond direct medical spending. There are substantial indirect costs due to lost productivity, as CKD often affects people in middle age and can lead to reduced work capacity, long-term disability, or premature death during prime working years. Patients with advanced CKD and those on dialysis commonly cannot maintain full employment due to the illness and time requirements of treatment. In addition, CKD patients frequently experience impaired quality of life, fatigue, and cognitive effects that reduce productivity even if they remain employed. A recent analysis in Australia estimated that over a 10-year period, CKD (including end-stage disease) would cause a cumulative productivity loss equivalent to US$91 billion in lost gross domestic product [11]. Notably, nearly half of this economic loss was attributed to reduced on-the-job productivity among individuals with early-stage CKD, and another 20% was due to premature exit from the workforce in later-stage CKD [11]. This example underlines that even early/moderate CKD can inflict a broad economic drag via subtle declines in worker performance and health. On a household level, CKD often results in catastrophic expenditures for families, especially in countries lacking universal health coverage. The cost of dialysis can impoverish patients and their families; many resort to selling assets or forgoing treatment. In low-resource settings, the majority of patients who develop kidney failure will die for lack of affordable treatment, as dialysis is either unavailable or prohibitively expensive without government support [5]. Globally, it is estimated that at least 2.3 million people die each year because they cannot access dialysis or transplantation in time [5] – a stark illustration of the societal cost in lives lost due to resource constraints. Furthermore, CKD creates psychosocial burdens: patients often suffer from depression, dependence on caregivers, and reduced ability to participate in family and community life. Taken together, the financial burden (direct and indirect) and the human burden of CKD are enormous. In recognition of these impacts, the World Health Organization (WHO) now classifies CKD as a major global health concern and includes it in global burden of disease assessments [1], though policy responses have lagged behind the magnitude of the problem.

Prevention and early detection strategies

Given the high costs and poor outcomes associated with advanced CKD, there is a strong imperative to shift focus toward prevention, early detection, and slowing disease progression. The majority of CKD cases develop on a background of known risk factors – principally type 2 diabetes mellitus, hypertension, and to a lesser extent glomerulonephritis, obesity, and aging-related decline in kidney func-

tion. In high-income settings, roughly 1 in 3 adults with diabetes and 1 in 5 adults with hypertension have CKD [5]. These facts underscore that effective prevention of CKD is largely entwined with control of its upstream drivers. Primary prevention involves reducing the incidence of CKD by aggressive management of risk factors in the general population. Public health measures to combat obesity, promote healthy diets (salt and protein moderation), reduce tobacco use, and encourage physical activity can in turn lower the population prevalence of hypertension and diabetes, yielding long-term reductions in CKD incidence [12]. Many of these interventions (e.g. salt reduction campaigns, sugar taxes, smoking cessation programs) are cost-effective from a societal perspective and have co-benefits for other NCDs [13]. In addition, improving social determinants – such as reducing poverty and expanding access to basic healthcare – is important, as CKD disproportionately afflicts disadvantaged groups and those with limited healthcare access [2]. Environmental factors are also receiving attention; for example, recurring severe dehydration and heat stress in manual laborers (exacerbated by climate change) have been linked to a form of CKD of unknown origin in certain regions [1]. Addressing such occupational and environmental risks (through ensuring access to hydration, shade, etc.) is an emerging component of CKD prevention in affected areas.

Early detection and secondary prevention

Detecting CKD early – before significant loss of kidney function – allows for interventions that can slow or halt progression to end-stage kidney disease. Key measures include optimal control of blood pressure, strict glycemic control in diabetics, use of renal-protective medications, and avoidance of nephrotoxic drugs. For instance, use of renin-angiotensin system blockers (ACE inhibitors or ARBs) in proteinuric CKD is a well-established strategy to reduce progression risk. In recent years, new classes of medications (such as SGLT2 inhibitors and non-steroidal mineralocorticoid antagonists like finerenone) have demonstrated the ability to further slow CKD progression in patients with diabetes and other high-risk groups, on top of standard care [14]. These therapies, alongside optimized management of comorbid cardiovascular conditions, can significantly improve outcomes – but only if patients are identified early in the disease course. Unfortunately, as noted, most CKD cases remain undiagnosed until late stages in many settings. Improving early detection is therefore a public health priority.

The most practical approach is targeted screening for CKD in high-risk populations rather than universal screening. Routine testing for kidney disease (e.g. measuring serum creatinine to estimate GFR, and urine albumin levels) is recommended for individuals with diabetes, hypertension, cardiovascular disease, or a family history of kidney disease. Guidelines also advise screening older adults and certain ethnic minorities who have elevated risk [15, 16]. Studies have shown that focused screening of high-risk groups is cost-effective and can lead to early interventions that delay CKD progression. In contrast, indiscriminate population-wide screening is not cost-effective, given the low yield in low-risk people and the costs of widespread testing. Thus, healthcare systems should embed CKD screening into chronic disease management programs – for example, ensuring every diabetic or hypertensive patient in primary care is periodically evaluated for kidney function. Simple tests like estimated GFR and urine albumin-creatinine ratio suffice to detect early CKD. The challenge, however, is implementation: in many low-income countries, even these basic tests are not readily available. A global survey found that among low-income countries, only about one-third could measure serum creatinine at primary care level, and none had capacity for routine urine albumin testing [2]. Even in some high-income countries, significant gaps exist in primary care testing for CKD (with only ~60% of practices reporting ability to measure albuminuria) [2]. Closing these gaps is an important task for health systems – investing in laboratory capacity and training so that CKD can be identified early, particularly in high-risk patients.

Lifestyle and risk factor management

When early-stage CKD or CKD risk factors are identified, aggressive management can substantially improve outcomes. Blood pressure control is paramount. Studies suggest that maintaining blood pressure <130/80 mmHg in CKD patients (especially with proteinuria) slows kidney damage progression. Tight glycemic control in diabetics (targeting individualized HbA1c goals) similarly reduces the development of diabetic nephropathy [17]. Other measures include managing dyslipidemia, encouraging weight loss in obese patients, avoiding NSAIDs and other nephrotoxins, and ensuring adequate hydration in those at risk of recurrent volume depletion. Patient education is also critical – people with early CKD should be counseled on dietary modifications (e.g. moderate protein intake, low salt, avoiding high-phosphate processed foods) and the importance of medication adherence. Multidisciplinary care (involving dietitians, pharmacists, and nurses) has proven beneficial in CKD management programs [18]. In countries like Taiwan, a concerted effort to implement CKD care programs has yielded impressive results. Taiwan's National Health Insurance launched a nationwide CKD prevention program with pay-for-performance incentives for providers starting in 2006, coupled with patient education on pre-dialysis care. This comprehensive approach – involving early referral to nephrologists, dietitian counseling, and tightly managing risk factors – has significantly lowered the incidence of end-stage kidney disease in Taiwan [18]. Analyses show that after these programs began, the long-term trend in dialysis initiation in Taiwan shifted downward, with a net reduction of about 1% per year in new kidney failure cases [18]. This example demonstrates that early intervention strategies can translate into fewer patients needing costly dialysis, validating the importance of prevention in national policy.

Health policy responses and initiatives

Addressing CKD as a public health crisis requires coordinated action at multiple levels: international organizations, national governments, and local health systems all have roles to play. To date, however, CKD has not received the

same level of policy priority as other major NCDs, and this gap is only beginning to be rectified [2]. Below, we outline the current landscape of health policy responses and ongoing initiatives aimed at CKD prevention and management, as well as needed reforms.

International and WHO initiatives

The global health community has started acknowledging CKD's importance. The World Health Organization has included CKD in its Global Burden of Disease assessments and in 2020 added "kidney diseases" to the top 10 causes of death list (ranked 10th worldwide) [5], raising awareness among policymakers. However, CKD is still not explicitly listed alongside the "big five" NCDs (cardiovascular disease, cancer, diabetes, chronic respiratory disease, and stroke) in many WHO strategic documents. This historical omission at the highest policy level has trickled down – many countries' national NCD plans omit kidney disease or address it only indirectly via diabetes and hypertension targets [2]. There is now a push from the nephrology community to change this. The International Society of Nephrology (ISN) and other advocacy groups have called for CKD to be recognized as a priority condition within the global NCD. The ISN is working closely with WHO as an official partner (non-state actor in official relations) to advance kidney health. From 2021-2023, ISN and WHO collaborated on a plan delivering several research and advocacy projects focused on the global burden of kidney diseases and how to integrate CKD into NCD strategies. One tangible output from an earlier ISN-WHO collaboration is the ISN Global Kidney Health Atlas, a comprehensive survey of kidney care capacity across 160+ countries, which has highlighted significant gaps in workforce, services, and funding for CKD in many regions [2]. Another is the ISN's framework for developing dialysis programs in low-resource settings, published with WHO support, which provides guidance to countries on expanding dialysis access. Importantly, momentum is building for a formal WHO resolution on kidney disease. At the 2025 World Health Assembly, kidney health advocates (including ISN) are organizing discussions on "Kidney Health as a Policy Imperative" to urge member states to adopt a resolution that would elevate CKD on par with other NCDs. Such a resolution could catalyze governments to devote greater attention and resources to CKD prevention and care as part of their commitments to Universal Health Coverage and the Sustainable Development Goals.

National policies and programs

Some forward-looking countries have implemented dedicated programs to combat CKD, often embedded in broader NCD strategies. As mentioned, Taiwan's nationwide CKD program is a model of success, showing that policy-backed early intervention can bend the curve of kidney failure incidence [18]. Japan has long included urinalysis for proteinuria in its routine health check-ups for adults, which facilitates early detection of kidney disease. In the United States, CKD has received increased policy focus in recent years: the U.S. CDC's CKD Initiative was established to provide public health strategies for kidney health, including surveillance of CKD prevalence and promoting early detection. In 2019, the U.S. government announced the "Advancing American Kidney Health" initiative, setting ambitious goals to reduce the number of Americans developing end-stage kidney disease, expand home dialysis use, and increase kidney transplants [19]. This initiative has led to new payment models that incentivize preventive nephrology care and transplantation. For example, Medicare now offers Kidney Health Education for CKD stage 4 patients and has implemented pilot programs that reward healthcare providers for keeping CKD patients off dialysis by optimally managing their care. In Europe, several countries (e.g. the UK, Netherlands) have integrated CKD screening and management protocols into primary care and have quality indicators tracking CKD care. However, as a whole the policy response in Europe has been uneven – an EU-wide NCD initiative for 2022-2027 did not specifically address CKD [5], reflecting that kidney disease still flies under the radar in some policy frameworks. In many low- and middle-income countries, national CKD programs are rudimentary or nonexistent. Patients often rely on general NCD clinics (if they exist) or hospitals that provide dialysis with variable government support. One encouraging development is that some LMIC governments are beginning to include dialysis in public insurance packages or subsidize it. For instance, India launched a National Dialysis Program to provide free dialysis in district hospitals, and Thailand covers dialysis under its Universal Coverage Scheme. But funding constraints mean that in numerous countries, only a fraction of patients who need KRT actually receive it [20, 21]. Expanding equitable access to CKD care remains a pressing policy challenge.

Health system reforms and integration

Experts have emphasized that combating CKD requires health system strengthening, particularly at the primary care level. Since CKD intersects with other chronic diseases, a vertical approach is less effective than integrated chronic care models. One proposed solution is the adoption of integrated kidney care – a framework that links prevention, early detection, and management of CKD with the treatment of kidney failure in a continuum [22]. Instead of focusing solely on costly end-stage treatment, integrated kidney care calls for coordinating all levels of intervention: community-based prevention, primary care management of early CKD, and accessible dialysis/transplant services, with smooth transitions between these levels [22]. This approach also stresses the efficient use of resources; for example, prioritizing transplantation or peritoneal dialysis over hemodialysis where feasible, and considering conservative (non-dialysis) care for patients unlikely to benefit from dialysis. Health policy can facilitate integrated care by breaking down silos between specialties and care settings. In practice, this means developing clinical pathways that involve primary care physicians in CKD management (with support from nephrologists), setting up regional CKD care networks, and using e-health tools for consultation and monitoring. Payment reform is another key lever – current reimbursement systems in many countries incentivize dialysis (e.g.,

through fee-for-service payments for each dialysis session) more than preventive care. Shifting incentives upstream (such as capitated or bundled payments that reward keeping patients stable without dialysis) can motivate providers to invest in prevention. Some countries are experimenting with such models: for instance, integrated care bundled payment pilots in the U.S. and risk-sharing contracts in Europe that hold providers accountable for renal outcomes. Universal health coverage (UHC) is crucial to alleviate the financial barrier for patients; coverage of CKD services (from blood pressure medications to dialysis) under public insurance or UHC packages can prevent catastrophic health expenditures. Brazil's constitutionally guaranteed universal health system (SUS) covers dialysis for eligible patients – as of 2019, about 79% of Brazilian dialysis patients had their treatment funded by SUS. Still, many nations have yet to provide such safety nets, resulting in inequitable access. Expanding UHC to include essential CKD care (as recommended by WHO) is a vital policy goal [2].

Education, awareness, and guidelines

Another important facet of policy response is improving awareness of CKD among health professionals and the public. Lack of awareness is a major barrier – both patients and providers often underestimate CKD until advanced stages. Public education campaigns (such as the annual World Kidney Day spearheaded by international kidney organizations) aim to raise awareness about kidney health and encourage screening for those at risk. At the provider level, clinical practice guidelines have been developed to standardize CKD care. The Kidney Disease: Improving Global Outcomes (KDIGO) initiative, an international collaboration, has published evidence-based guidelines on CKD evaluation, blood pressure management, diabetes management in CKD, etc., which serve as reference standards worldwide. Many countries have adapted these into local guidelines or care protocols. Implementation of guidelines in primary care is being pursued through continuous medical education and decision-support tools (for example, prompting doctors to check renal function annually in diabetics). Health systems are also investing in health information technology to improve CKD care, such as electronic medical record alerts for abnormal kidney function and better coding of CKD diagnoses. Removing the stigma and therapeutic nihilism around CKD is part of the cultural change needed – clinicians must recognize that diagnosing CKD early does make a difference, because there are interventions that can slow progression and reduce complications. In summary, effective policy responses to CKD span a wide range: from high-level recognition and inclusion in national health plans, to very practical measures like training primary care staff, financing essential services, and leveraging new therapies (e.g. ensuring affordable access to SGLT2 inhibitors which have been shown to benefit CKD patients.

Encouragingly, some recent initiatives are breaking down traditional boundaries of care. For instance, multi-sectoral efforts addressing CKD alongside diabetes and hypertension in community programs have shown promise. Innovative delivery models, such as mobile clinics providing screening in remote areas and community health workers following up CKD patients at home, are being tried in parts of Asia and Africa. These efforts seek to overcome barriers like geographical access and workforce shortages. Telemedicine is also playing a role in linking specialists to primary care in underserved regions for CKD management advice. Overall, while the policy response to CKD has historically lagged, a shift is underway. The convergence of growing disease burden data, economic imperatives, and advocacy is pushing CKD higher on the agenda. Moving forward, sustained political will and resource allocation will be needed to implement these strategies on a broad scale.

Conclusions

CKD has firmly emerged as a global public health threat – one that demands the same level of urgency and coordinated action as other major chronic diseases. The evidence presented highlights that CKD prevalence is high and rising worldwide, with millions of individuals affected and significant mortality that continues to increase despite advances in other health areas. The disease carries devastating personal consequences for patients and families, and its financial costs are straining health systems everywhere. Yet, CKD remains under-diagnosed and under-prioritized. The good news is that CKD is to a large extent preventable, or at least its progression can be delayed, through well-known interventions: effective control of diabetes and hypertension, lifestyle modifications, and early use of reno-protective therapies. We already have the knowledge and tools to make a substantial impact on the CKD burden. What is needed is the political commitment and smart allocation of resources to put these tools into practice on a population level. This means integrating kidney health into national NCD programs, investing in primary care and screening infrastructure, and ensuring that patients have access to affordable treatment and specialist care when needed. International and national initiatives are beginning to rise to the challenge – from WHO's engagement and the ISN's advocacy, to successful country programs that can be emulated. Healthcare professionals have a critical role in this effort: by following clinical guidelines, raising awareness, and participating in multidisciplinary strategies, they can help bridge the implementation gap. In conclusion, CKD exemplifies a modern public health paradox: a condition that is common, harmful, and largely preventable, yet still not adequately addressed. Recognizing CKD as a major public health problem is the first step; the next is translating that recognition into concrete actions in policy and practice. With concerted action now, we can curb the trajectory of CKD, save countless lives, and reduce the tremendous societal costs associated with this disease in the years to come.

Competing interests

None declared.

Authors' contributions

All authors contributed equally to the research, data analysis, and writing of the manuscript. All authors read and approved the final article.

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