

Could a Pragmatic Detection Strategy Be the Gateway for Effective Population Health for CKD?

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The ongoing coronavirus disease 2019 pandemic has strained our healthcare system to its breaking point and, along with the rising awareness of racial injustice in our country, has shaken many widely held assumptions about the equity of our health system. As we question our longstanding assumptions about health in our country, perhaps it is time for the kidney community to reconsider our efforts to reduce the burden of CKD. CKD continues to be characterized by substantial racial, ethnic, and socioeconomic disparities, with the burden of the disease placed disproportionately on minority and low-income Americans who often face systemic and structural barriers to health.¹

For the past few decades our approach has been to emphasize that “kidney disease is common – serious – costly,”² and our efforts have focused primarily on encouraging the public to be screened, but without any coherent follow-up plan for people who screen positive, especially those who live with systemic barriers that limit access to healthcare. Professional education for non-nephrologist clinicians who care for people with CKD has tended to downplay that evidence-based interventions for early CKD are limited and does not emphasize that people with CKD are more likely to die of cardiovascular disease than to progress to ESKD.

Persisting disparities in kidney care and outcomes along with the rising burden of CKD should alert us to the need to rethink our approach. Underuse of the CKD education and medical nutrition therapy benefits under Medicare³ reflect

serious limitations to adoption of these well intentioned programs. Low utilization of albuminuria screening in people with diabetes⁴ and the infrequency with which CKD is diagnosed, even when indicative laboratory data are available in the electronic health record,⁵ suggest that our health system needs improved strategies to integrate CKD into primary care.

In this issue of *JASN*, Tonelli and Dickinson⁶ provide a nuanced discussion of kidney disease detection, contrasting population-based screening with case finding in both high-income countries and low- and middle-income countries. Critical issues raised by Tonelli and Dickinson relate to the usability of new information obtained from early detection of CKD. The authors emphasize case finding among high-risk people and contrast this approach with the lack of benefit and the harms and opportunity costs associated with population-based screening. They identify the utility of detecting CKD as being dependent on implementation of better management of CKD. If detection of CKD does not alter management, there is no benefit to case finding or screening and only potential risk.

If we are to reduce the burden of CKD, we must be guided by the same pragmatism that informs Tonelli and Dickinson’s discussion of early detection. With limited resources, it becomes imperative to build programs that address populations at risk in ways that are accessible to them and realistic for overextended healthcare professionals. Thus, system-change efforts might address detection and management of those at risk for progressive disease, at least initially. Laboratory measure-based prediction models are currently available to identify individuals with CKD who are at risk for progressing to ESKD and/or experiencing cardiovascular events.

Integrated population health provides the blueprint for implementing better care. The Indian Health Service (IHS), the Veterans Health Administration, and integrated health systems like Kaiser provide examples of population health-based programs to detect and manage CKD that have reduced the burden of kidney disease. The IHS approach, based within the existing diabetes care delivery system, resulted in a 54% decrease in incidence of diabetes mellitus-associated ESKD,⁷ with approximately \$500 million savings to Medicare⁸ in an economically disadvantaged, rural population with per capita health expenditures of approximately 40% of the United States civilian population.⁹ This was accomplished with a systematic approach to case finding that was focused primarily on people with diabetes, with follow-up care organized around an interdisciplinary primary care model, including routine creatinine/eGFR and urinary albumin-creatinine ratio screening, broadening of diabetes standards to address kidney complications along with the other complications, and engagement and education of all healthcare and community-based professionals.¹⁰ What could this mean for the broader United States

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healthcare system? It might result in addressing CKD, in large part, within the context of integrated diabetes care or cardiovascular risk–reduction efforts rather than through a nephro-centric paradigm. Diabetes is now the preeminent cause of CKD worldwide, and the easiest way to implement better CKD care may involve leveraging the robust infrastructure of the diabetes care delivery system. However, this might mean that the diabetes team, not the nephrologist, would be directing care and the focus would shift away from nephrology referral and toward optimizing care early in the course of a multisystem disease. Tonelli and Dickinson point out that strategies may differ based on available resources. IHS has shown that the presence of a coherent and comprehensive healthcare system, even if underfunded, is able to make significant progress in addressing CKD and compares favorably to better funded systems organized around individual care rather than population health.

The ongoing pandemic and the rising awareness of racial injustice in America highlight the need for change in the United States health system and provide an opportunity to begin discussion about how best to enact these changes. The persisting disparities in CKD make it incumbent on us to reexamine whether the human and economic resources we commit to identifying people with CKD are aligned with population health management approaches to ensure optimal follow-up care, and that they are implemented in ways which bring the greatest benefit to the populations at risk.

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See related article, “Early Detection of CKD: Implications for Low-Income, Middle-Income, and High-Income Countries,” on pages 1931–1940.

Molecular Mismatch—the Renaissance of HLA in Kidney Transplantation

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The two most common causes of premature graft loss in renal transplantation, death with function and alloimmune-mediated injury, are inter-related; immunosuppressive

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