

Location, Location, Location: Usual Source of Care, Kidney Disease Outcomes, and the Social Determinants of Health

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The World Health Organization's Commission for the Social Determinants of Health put forward a conceptual framework for understanding how "social, economic, and political mechanisms give rise to a set of socioeconomic

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positions, whereby populations are stratified according to income, education, occupation, gender, race/ethnicity, and other factors."¹ These socioeconomic positions influence the downstream, intermediary determinants of health status, such as living and working conditions, food security, and behavioral/biological/psychological factors, and reflect their place within social hierarchies. Further, individuals may experience differences in likelihood of exposure to health-compromising conditions and have different vulnerability to these exposures. The health system itself can act as an intermediary determinant of health that influences access to care, outcomes through intersectoral action, and the differential consequences of illness in peoples' lives.

In this issue of *Kidney Medicine*, Toth-Manikowski et al² report findings from an analysis of the Chronic Renal Insufficiency Cohort Study. The authors examined the outcomes of the individuals who received their routine care in the preferred clinic setting compared to the hospital emergency department (ED) or an urgent care center (ED/Urgent Care). Individuals who sought care in an ED/Urgent Care setting had a higher crude rate of end-stage kidney disease, atherosclerotic events, incident congestive heart failure, hospitalization, and death. After adjustment for baseline patient characteristics, the hazard for hospitalization and death remained significantly higher among those receiving routine care in the ED/Urgent Care setting. It may be that presenting to the ED makes it more likely that an individual would be hospitalized than if they had sought care in an outpatient clinic, particularly if outpatient follow-up is not possible or unavailable. However, the absolute differences in the rates of hospitalization were much larger than one would expect based solely on that factor. Individuals who are seen regularly in a clinic setting are more likely to receive preventive care, to have health issues identified earlier, and to benefit from treatments that may delay or avoid progression to the point that an individual requires admission to hospital. This likely applies to all areas of their health, not just chronic kidney disease-related care, and may explain the observed differences in hospitalization and mortality.

Primary and subspecialty care in individuals with chronic kidney disease largely focuses on slowing

progression of disease, modifying cardiovascular risk, and addressing the complications of kidney disease. While it was not clear who provided the clinic-based care or how frequently patients were seen in this study, it was reassuring that these patients appeared to have better control of cardiovascular risk factors at baseline and that crude rates of events were lower. It is tempting to attribute the observed benefits to the location where they seek care, but it may also be that where individuals seek care is a surrogate for other factors that influence health outcomes, as the authors acknowledge.

Nine percent of the Chronic Renal Insufficiency Cohort received their usual care in the ED/Urgent Care setting, and they were more likely to be members of a racial/ethnic minority group, have less than a high-school education, earn an income of less than \$20,000 per year, and be permanently disabled. It was clear that the location where individuals sought outpatient care was a surrogate for important social determinants of health, the impacts of which are well known and have been demonstrated across many health conditions, including chronic kidney disease.

The authors modeled the associations between location of usual care and the outcomes of interest using 3 models: an unadjusted model (Model 1); a model adjusted for age, sex, race/ethnicity, education, and income (Model 2); and a model that also adjusted for laboratory variables, medication use, lifestyle behaviors, and blood pressure (Model 3). Model 2, in essence, adjusted for age and social determinants of health, while Model 3 added adjustment for what could be considered intermediary determinants of health.¹ It is interesting to frame it in this way because once the authors accounted for the social determinants of health, adjusting for traditional risk factors for the outcomes of interest did not materially change the results. In other words, the majority of the variance in outcomes between groups who did or did not seek care through the ED/Urgent Care was explained by age and social determinants of health. This has important implications for initiatives aimed at improving kidney outcomes in marginalized populations and highlights the importance of considering the influence of upstream factors on health outcomes.

The drivers of racial/ethnic disparities are complex and multifactorial, but relate to biological differences in susceptibility to disease and risk of progression, environmental and socioeconomic factors, health beliefs, and clinical and health policies that affect care delivery.³ Poverty mediates its effects through low income, an inability to navigate the system due to poor health literacy,

and the impact of social exclusion as a result of institutional behaviors, policies, and practices.⁴ The lack of healthcare insurance or being underinsured with high copayments is a barrier to care, and insurance status has been shown to influence the risk of kidney failure and death, even after accounting for other factors.⁵ These issues have long been identified as important determinants of health overall and within the chronic kidney disease population, and while some progress has been made, racial and ethnic disparities in measures of health persist. Data from the Agency for Healthcare Research and Quality suggested that minority groups lagged behind others in 35%-40% of important indicators of the quality of healthcare in the United States in 2018.⁶

The path forward likely requires a better understanding of the patient perspective; a health care workforce that is trained to understand the social determinants of health and becomes an advocate for change; the ability to tackle the inequitable distribution of money, resources, and power; and concerted efforts to improve the conditions of daily life for disadvantaged populations.⁷ It will be essential for healthcare providers to understand patients in the context of their communities and value systems and be aware of their perspectives and how they might influence care. Mistrust of the medical establishment, a lack of emotional and financial resources to deal with illness, the psychological toll of coming to terms with a diagnosis of a chronic disease, and a lack of understanding and knowledge that is a prerequisite to self-management and adherence may all play a role.⁸ Limited access to childcare, lack of transportation, limited health literacy and proficiency in English, economic instability, and poor insurance coverage are further barriers to accessing, receiving, and adhering to care that must be addressed.⁹ Partnering with social services and community-based organizations and leveraging community health workers to implement evidence-based interventions at community-based locations such as churches, grocery stores, and schools can facilitate the provision of linguistically and culturally tailored approaches to improving health outcomes and has been tried with success.¹⁰

In summary, the study by Toth-Manikowski et al² highlights the ongoing disparities that influence the health outcomes of individuals in the United States and will require the coordinated efforts of patients, providers, and policymakers to address the upstream determinants of health. It is a difficult mountain to climb, but a necessary journey.

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