Social Determinants of Health: Addressing Unmet Needs in Nephrology

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There is ongoing recognition that a wide array of social, economic, and environmental factors influence individuals' opportunities to engage in health care and healthy behaviors. Despite spending $34 billion annually on the care of patients with end-stage renal disease, the American public and nephrology community remain remarkably complacent about addressing "upstream" factors that influence the prevention, progression, and treatment of chronic kidney diseases. Recently, a growing number of health plans and dialysis providers have begun to embrace population health management; accept greater accountability for health, health care, and health costs; and envision kidney health beyond their traditional roles in care delivery. This narrative offers a framework to evaluate social determinants of health and understand their link to chronic kidney diseases and provides recommendations for integrating social determinants into clinical care and delivery settings to assist vulnerable patients with broad social needs. Addressing unmet social needs with the same intention as treating hypertension, proteinuria, or anemia represents an important step toward making optimal health a palpable reality for all people who are at risk for or affected by chronic kidney diseases.

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Introduction

Federal expenditures for the care of Medicare beneficiaries with kidney diseases in the United States has reached ~$100 billion annually and now accounts for >20% of general Medicare spending.[1] Despite this extraordinary outlay on kidney-related care, striking disparities in the incidence, progression, and treatment of kidney diseases persist by race, ethnicity, socioeconomic status (SES), health insurance coverage, and residential neighborhood.[2-8] Demographically, the uninsured, Medicaid enrollees, and members of racial-ethnic minority groups now constitute more than half the patients initiating dialysis therapy in the United States, many of whom received little to no nephrology care before end-stage renal disease (ESRD) onset.[1] Healthy People 2010 failed to meet several key objectives for chronic kidney diseases (CKDs) due the high percentage of patients who failed to receive pre-ESRD nephrology care and the low percentage of patients who were waitlisted for or who received a kidney transplant.[9]

There is increasing recognition that a wide array of social, economic, and environmental factors influence individuals' opportunities to engage in healthy behaviors and in health care. However, the nephrology community has remained remarkably complacent in addressing upstream factors that influence population- and individual-level kidney health.[6,7] Although health care is critical to health, evidence suggests that it is a relatively minor determinant of health.[10] Health-related behaviors such as smoking, diet, and exercise, for example, are more important drivers of premature death in the United States (Fig 1).[11]

This Narrative Review provides a framework for evaluating social determinants of health, highlights their indelible link to CKD, and provides recommendations on how the nephrology community might better integrate social determinants into care and delivery settings to assist patients with broad social needs.

Social Determinants and Health Disparities in Nephrology

Social determinants of health, broadly defined as conditions in the places where people live, learn, work, and play, affect a wide range of health risks and outcomes.[9] During the past 3 decades, numerous studies have linked social determinants of health with disparities in the incidence, progression, and treatment of CKD.[2-5] For example, incidence rates of albuminuria, reduced glomerular function, and ESRD are highest among persons living in the most impoverished neighborhoods.[3-5] Link and Phelan originally referred to social conditions, including social class, race, income, and educational attainment, as ''fundamental causes of disease because these conditions govern access to resources that influence health and disease."[12] Healthy People 2020 organizes social determinants of health around 5 key domains: (1) economic stability, (2) education, (3) neighborhood and built environment, (4) social and community context, and (5) health and health care (Fig 2).[6] In essence, these domains primarily highlight how a person's need for health care arose in the first place.[13,14] Although inequities in distributive justice persist in many areas of nephrology, policymakers and researchers have turned increasing attention to the link between social determinants of health and modifiable risk factors for progressive kidney injury.[15,16]

Economic Stability

The undue influence of poverty on health has been observed for centuries.[17] Within nephrology, Volkova et al[4] observed a 4-fold difference in the incidence of

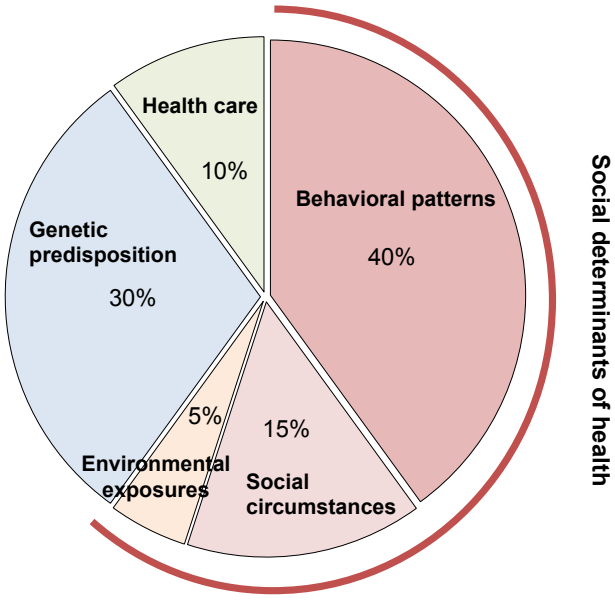

Figure 1. Proportional contribution of health determinants to premature death in the United States. Based on information presented in Schroeder[11] and McGinnis and Foege.[10]

ESRD in areas of high as compared with low levels of residential poverty. Similarly, other studies have observed significant differences in the likelihood of receiving a deceased or live donor kidney transplant in patients residing in poor as compared with more affluent areas.[4,18,19] Although these disparate outcomes arise from a variety of mechanisms, economic stability plays a central role in molding health-related behaviors and governing access to health resources, which in turn influence downstream risk for and engagement in the treatment of CKD.[12,15,20]

In the general US population, health-related behaviors (eg, smoking, physical activity, and alcohol intake) and measures of health care access (eg, health insurance coverage and routine care visits) reportedly mediate an estimated 31% of the association between income and the presence of albuminuria and reduced kidney function.[21] Similarly, nearly three-quarters of the excess risk for incident albuminuria or reduced estimated glomerular filtration rate among black as compared with white Americans in the Atherosclerosis Risk in Communities Study was found to be attributable to measures of SES and health care access.[22,23] The social distribution of important risk factors for progressive CKD, including the higher prevalence of smoking, type 2 diabetes mellitus, hypertension, and obesity within poor as compared with less impoverished areas, lends evidence to these claims.[15,16] This unequal distribution of CKD risk factors is further compounded by the vulnerability of underserved groups to health-compromising illnesses such as ESRD. Economic instability also prevents or delays many eligible patients from receiving important interventions, such as dietary

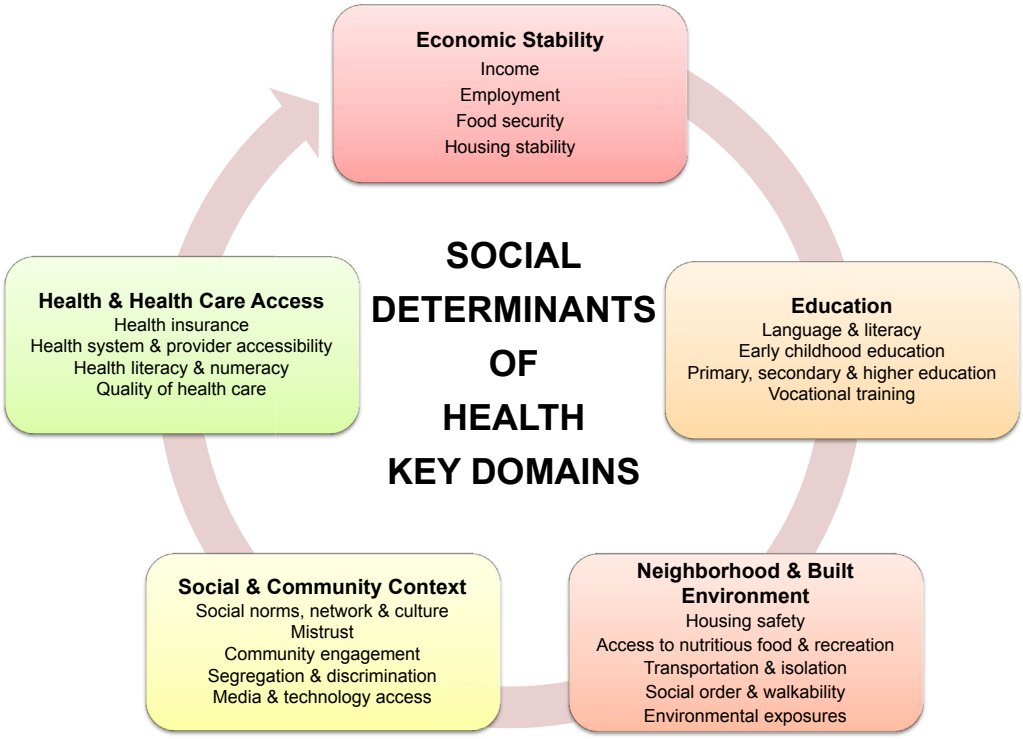

Figure 2. Social determinants of health: key domains. Based on information available from the Healthy People 2020 initiative.[9]