It Takes a Spark to Light a Fire: Kindling Interest in Nephrology Careers

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Recruiting the future nephrology workforce is a major responsibility and key priority for our specialty. There has been increasing concern regarding an impending shortage of nephrologists despite continued growth in the number of nephrology training programs and fellows during the past decade (Figure 1). This expansion has occurred despite the Balanced Budget Act of 1997 cap on the number of Medicare-funded graduate medical education positions.1 Much of this increase has been composed of international medical graduates, with the percentage of these fellows increasing from 38.1% in 2002 to 65.8% in 2012. There has been a parallel increase in the number of practicing nephrologists in the United States. Between 2000 and 2010, the number of nephrologists has increased by 43.1%, making nephrology the fourth-fastest-growing specialty, exceeded only by combined internal medicine-pediatrics, geriatric medicine, and emergency medicine.2

The reason for concern about the future workforce is the declining interest in nephrology, as reflected in results from the National Resident Matching Program Specialties Matching Service (“the match”). In the December 2013 match for fellows starting July 1, 2014, 306 of 403 positions filled (76%), 81 of the 145 programs filled (56%), and the number of applicants per position was 0.8.3 Of all matched positions, only 29.4% were with graduates from United States allopathic medical schools, the lowest of all specialties of medicine (gastroenterology was the highest at 66%). The specialty closest to nephrology was rheumatology at 35%. For the 2014 pediatric nephrology match, 18 of 42 programs filled (43%), 33 of 61 positions filled (54%), and the number of applicants per position was 0.6. Reasons for the declining interest in nephrology have been discussed in many excellent reviews.4–7 These reasons include dissatisfaction with early nephrology experiences in medical school, limited clinical exposure to the breadth of patients with nephrologic disease, the increased educational role of hospitalists at the expense of nephrologists, lack of new therapeutics, the perception that the job market is soft, lifestyle issues, negative role modeling, complexity of the specialty, the Medicare ESRD program, and changes in nephrology reimbursement.

This declining interest in nephrology careers coincides with the growing recognition of the public health challenges of CKD. More than 20 million Americans are living with kidney disease, with a disproportionate burden on minority populations.8 CKD is the eighth leading cause of death in the United States; it accounts for 7% of Medicare expenditures but less than 1% of the Medicare patient population.9 This burden has led to recommendations to screen high-risk populations.10 The value of screening has come under scrutiny following issuance of the American College of Physicians’ guidelines on screening, monitoring, and treatment of CKD stages 1–3. These guidelines recommend “against screening for chronic kidney disease in asymptomatic adults without risk factors for chronic kidney disease.”11 However, there is consensus in the nephrology community regarding the value of screening given the burden of kidney disease (especially in underserved populations); the fact that CKD is frequently clinically silent, especially at early stages; and the general lack of awareness of CKD in the population.10,12 Screening is recommended for those with diabetes, hypertension, family history of CKD, history of AKI, cardiovascular disease, structural urinary tract disease, and multisystem diseases with potential kidney involvement.12

In this issue of JASN, Hsiao and colleagues present a pioneering model for addressing both of these critical nephrology issues: increasing interest in nephrology careers and screening for CKD.13 The Kidney Disease Screening and Awareness Program (KDSAP) is a student-governed program created at Harvard College in 2008. Targeting primarily college students, KDSAP has enrolled 200 students ranging from high school to graduate school. Students work in community clinics screening for CKD in high-risk underserved populations. KDSAP incorporates the important components of physician mentoring, cultural competence, and direct interactions with patients. KDSAP also presents opportunities for students to participate in kidney research.

Outcomes of KDSAP were evaluated in a survey of participating college students (n = 56). The program was successful in raising awareness about CKD and nephrology careers and had a “strongly positive” impact on students in multiple domains, including attitudes toward working with underserved communities, participation in public health projects, interest in nephrology, knowledge in nephrology, interest in medical research, and interest in a medical career. The career paths of 51 KDSAP

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alumni were tracked: 26 KDSAP students enrolled in medical school and 10 in other health disciplines or health research. So far, 3 of the KDSAP alumni plan to enter nephrology fellowships and 13 students have engaged in kidney-related research. The program has fostered many academic products, including grants, meeting presentations, and publications. The article did not discuss the effect of KDSAP on detecting clinically silent CKD or raising public awareness of CKD.

KDSAP represents a positive approach to increasing interest in nephrology careers. Although the article did not evaluate the reasons students chose to participate in KDSAP, many likely had a predetermined interest in medicine. KDSAP provided them an opportunity to explore this interest further and to demonstrate a commitment to human service. Channeling this student commitment into pathways that benefit nephrology is astute. KDSAP introduced students to public health issues related to kidney disease and to the social determinants of health, undoubtedly benefiting both the students and the communities. The University of Toronto and the Rutgers Robert Wood Johnson Medical School have established KDSAP chapters, while the program has inspired other kidney disease awareness initiatives.

A survey of practicing nephrologists showed that the decision to choose nephrology as a career most often occurred during residency, although initial interest began before or during medical school in 44% of respondents. Reasons for choosing nephrology included intellectual aspects of the specialty, early mentoring, and participation in nephrology electives. KDSAP targets students at an early and impressionable stage in their educational pathway, harnessing their enthusiasm for volunteerism and their commitment to the human condition. This early experience and engagement and mentoring by nephrology role models are likely key factors in KDSAP’s initial positive outcomes.

Many opportunities exist to positively affect the workforce challenges of nephrology. The kidney community is beginning to pursue these opportunities at a local level, such as through KDSAP, and a national level, such as by the American Society of Nephrology and other organizations. There is enormous potential to leverage the skill and commitment of nephrologists to spark interest in nephrology careers among the talented students and residents entering our medical schools and training programs. As Hsiao and colleagues have demonstrated, there are even opportunities to engage students farther upstream along the educational continuum. Recruiting, training, and mentoring our future workforce remains one of the most important responsibilities in nephrology and needs to be approached with creativity and innovation.

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REFERENCES