

Fellows Corner

Residents' Perception of Nephrology A Call for Action

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It comes as no surprise to anyone within the nephrology community that interest in a career in nephrology has declined drastically over the past decade, particularly among United States allopathic medical graduates. According to the American Society of Nephrology Data Brief regarding the 2020 nephrology fellowship match, 39% of nephrology fellowship positions went unfilled, with only 41% of available tracks filling (1). Only 69 United States allopathic medical graduates matched into nephrology, corresponding to a 14% decline from the previous year's match. This trend is of particular concern, given the increasing prevalence of patients with kidney disease in the United States.

In response to this challenge, the American Society of Nephrology has launched multiple initiatives aimed at a better understanding of the observed trend and ultimately rekindling interest in the field. Other groups have also attempted to understand the attitudes and opinions of medical students and residents as they pertain to the field of nephrology. Most of these studies, however, were survey-based and lacked a clear theoretic framework or a rigorous qualitative methodology.

To shed more light on the subject, our group aimed to identify the factors influencing subspecialty career decisions among internal medicine residents at a large residency program. We used a qualitative research design consisting of semistructured interviews with 10 internal medicine residents (2). The interview questions were guided by the Professional Identity Formation framework, which aims at capturing key elements contributing to the formation of professional identity (3). Inasmuch as interest in nephrology was the main focus of our study, the residents were specifically asked about their perceptions of nephrology as a career and their educational experiences with nephrology through medical school and residency. The open-ended nature of the interview process allowed for rigorous theme identification, which is at the core of qualitative research. The interviews were recorded and transcribed verbatim. Two authors with training in qualitative research independently analyzed the data using thematic analysis. The factors influencing career decisions were grouped into three categories: personal attributes, social factors, and subspecialty-specific factors. Nephrology-specific factors were grouped on the basis of whether they were cited positively or negatively. The frequency with which these factors were cited was tracked as a

surrogate of their perceived impact.

Personal or family experiences were frequently cited factors in subspecialty career decisions. The importance of role models and career mentors was also particularly evident. Of particular interest was the impact of early exposure to, and quality of instruction in, a particular field in the preclinical and clinical years of medical school. Comments spanning intellectual challenges, topic difficulty, autonomy, and overall performance in a particular block or rotation seemed to be influential in subspecialty decision-making. As anticipated, an array of subspecialty-specific factors was cited, including type of practice, pathology breadth and complexity, work-life balance, academic prospects, job market and compensation, field innovation, and patient population. Table 1 details the social and subspecialty-related factors cited by residents, which may shed some light on the dwindling interest in nephrology.

Figure 1 highlights the most frequent factors mentioned negatively or positively in relation to nephrology. Lack of exposure in the clinical and preclinical years of medical education was the most frequent negative factor cited by nine of the 10 residents. The quality of instruction in those years was frequently cited negatively as well. The patient population, particularly patients with ESKD receiving dialysis, was a frequently mentioned deterring aspect of the field. This appeared to be closely linked to the perceived lack of innovation and inability to make a difference, both of which were also frequently cited. Compensation, however, was mentioned by only three of the 10 residents. Interestingly, complexity of the field, which came up frequently as a negative factor, was also the most highly cited positive aspect. Other positive factors mentioned included the breadth of pathology and the perception that nephrology is a “smart”

or “brainy” specialty.

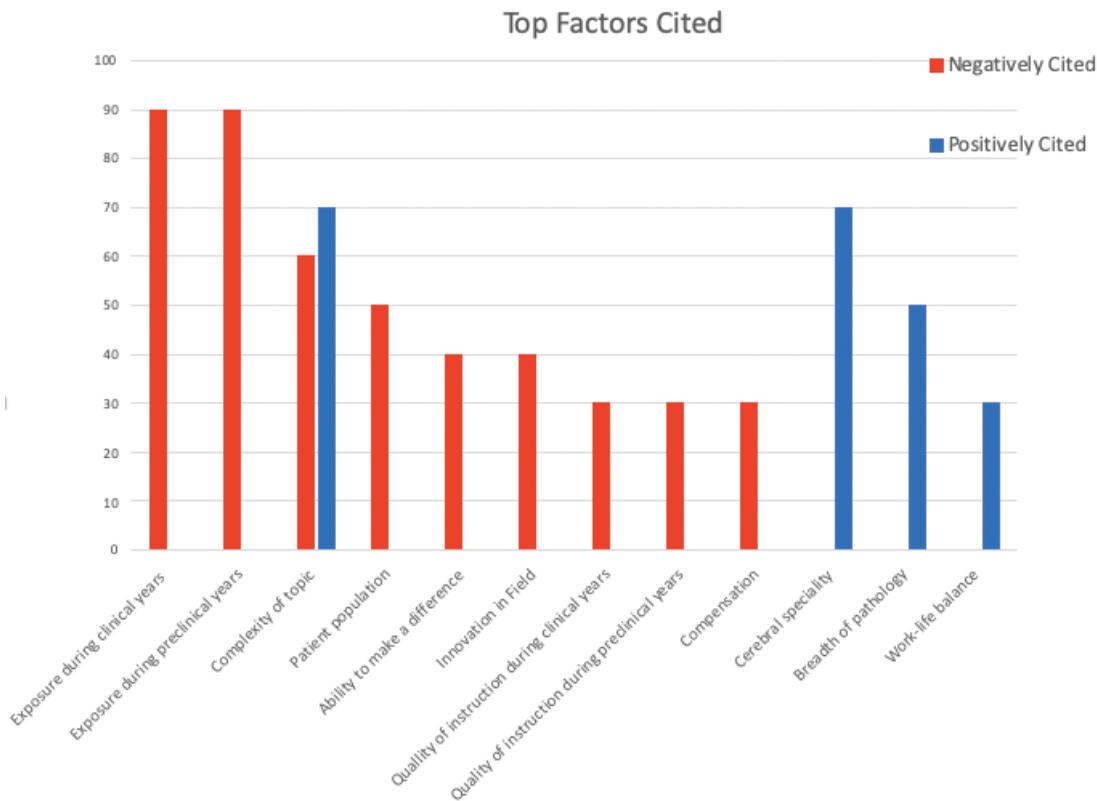
This study adds to the available literature and offers more insight into residents' perceptions of nephrology. Of particular importance was the strong signal pointing toward exposure to nephrology and the quality of instruction in the preclinical and clinical years being a negative factor or deterrent away from nephrology. As shown in Table 1, the importance of these formative years was clearly highlighted as an important factor in subspecialty career decisions in general. The quality of teaching, learning environment, performance, and overall experience in a particular subspecialty block or clinical rotation appeared to be important in guiding career decisions. Indeed, early exposure has been reported as an important career-affecting factor in other specialties, including geriatrics and rheumatology (4, 5). We believe that this highlights an area of opportunity that the nephrology community has to commit to. Educators within nephrology have to place themselves in a position to be involved in medical school curricula, at both the preclinical and the clinical years. The quality of instruction is also vital, and, as content experts, nephrology educators need to take charge of shaping the educational experience in ways that reach the next generation of learners. Innovative instructional strategies need to be used to facilitate delivery of the potentially complicated nephrology concepts. In addition, the early clinical years, both in medical school and in residency, appear to be of particular importance in the choice of a subspecialty. Nephrology educators have to realize this fact and strive to stay involved directly with our learners. Through early interactions with medical students and residents, we hopefully can project not only our nephrology pearls but also our passion and enthusiasm for the field.

These are exciting times in nephrology. The momentum

Table 1. General factors influencing subspecialty decision-making

Social factors	Subspecialty factors
Role models/mentors	Field-related factors Innovation in the field Social aspect (teamwork) Breadth of pathology
Formal learning (preclinical) Exposure Topic difficulty Intellectual challenge Quality of instruction Experience/performance on block	Lifestyle-related factors Work-life balance Stress level/acuity Workload
Clinical years Exposure Environment Quality of instruction Experience/performance on rotation Autonomy on rotation	Job-related factors Prestige/influence Compensation Job market Academic prospects Opportunity for procedures
	Patient-related factors Patient population Longitudinal care/continuity Inpatient vs. outpatient focus Practice focus: narrow vs. wide Ability to make a difference

Figure 1. Factors cited positively or negatively in relation to nephrology and their relative frequencies (percentage of residents mentioning the factor). Factors cited by two or fewer residents are not presented.



to advance the field has never before been like this. It is clear, however, that our learners do not appreciate the change. The perceived lack of innovation in the field and inability to “make a difference” were both highly cited as negative factors. The negative perception of our patient population was

also frequently cited. This too is an area of opportunity that the community can potentially seize through early interactions with medical students and learners. The community needs to showcase the momentum and drive for nephrology innovation. We need to alleviate the stigma associated with

our patient population: one that is driven by the inpatient-heavy nature of our training process, wherein our sick dialysis patients with frequent readmissions bias our learners’ perceptions.

This study was a single-center qualitative interview-based study aimed at uncovering themes pertaining to residents’ perceptions of nephrology. We are using the themes uncovered to guide a survey that we plan to institute at a national level. We are hopeful that the insight thus gained will inform societal and national interventions aimed at rekindling the interest in nephrology and ultimately help sustain the future of our specialty. ■

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 is one of the things I value about my ASN membership and the leadership that makes the changes. Volunteering my time with ASN ultimately helps patients and trainees.
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