

## Brief Summary

# The US Nephrology Workforce 2015: Developments and Trends

Prepared for  
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## Executive Summary

Nephrology continues to be in transition. While rates of kidney diseases and injury continue to rise in the US, changes in the general health care system and delivery of kidney care make it unclear how increases in need will be translated into demand for nephrologists. The changes in the delivery system also raise questions as to the future roles and career paths for nephrologists.

There are 5 major interrelated workforce issues to be watched closely.

### **How many new nephrologists are needed each year:**

From the survey of fellows, it is clear that the job market for new nephrologists remains limited. It is also clear from interviews with major dialysis providers that cost pressures and financial incentives may lead to additional steps to try to increase efficiency that could reduce demand for nephrologists. On the other hand, the difficulty of attracting enough well-qualified applicants to fill the available fellowship positions appears to be leading to a reduction in entrants into nephrology. The number of new fellows entering the specialty dropped 8% in academic year (AY) 2014–15 and appears to have dropped further in AY 2015–16. Thus, the growth in both demand and supply may be slowing. While some reduction in supply may be appropriate, nephrology has to be careful not to contract below future need. Trends in supply, distribution, and need should be monitored closely.

### **The National Resident Matching Program (NRMP) Specialties Matching Service (SMS) “All-In” Nephrology Match:**

The new “all-in” policy could affect the number and distribution of new fellows. As documented in the report, the number of US medical graduates (USMGs) and international medical graduates (IMGs) selecting nephrology over the past several years has been declining. In this regard, the experience of nephrology in the Match has been quite different than most other internal medicine (IM) subspecialties. The new policy is likely to lead to an increase in the number of applicants to

nephrology in the Match as some matches that might have been completed outside of the SMS in prior years are likely to be included in the Match for AY 2016–17. The critical question will be how the final numbers for AY 2016–17 compare to earlier years.

**The geographic distribution of nephrologists:** The supply of nephrologists is not evenly spread across the country and does not reflect the distribution of patients with kidney diseases as measured by patients with end stage renal disease (ESRD). It is also apparent that location of fellowship programs is not well aligned with areas of need. This in part reflects the fact that graduates of existing programs have tended to stay in the area they trained in. Looking forward, more needs to be done to systematically measure need and access, identify areas of high need for nephrologists, and communicate those findings to policy makers and fellows. Any decreases in entrants into the specialty should be monitored closely to make sure that underserved areas are not further disadvantaged.

**Future career paths for nephrologists:** One of the takeaway messages from the focus groups with nephrologists and the interviews with representatives of major provider organizations is that the specialty is in transition and there is an undercurrent of uncertainty which sometimes breeds dissatisfaction. Increasing fragmentation of kidney care combined with procedures being ceded to other specialties, including hospitalists, contributes to the uncertainty. Furthermore, the growth of for-profit dialysis providers, increasing time spent overseeing dialysis care, and increasing pressure to generate income all appear to be making the specialty less attractive and rewarding to existing as well as prospective nephrologists. It may be time to look more closely at the roles and opportunities for nephrologists as the health care system attempts to move towards population-based health and greater coordination of care. Attention to this issue could also make nephrology more attractive to well-qualified internists in the future.



**Interprofessional education and practice:** The health care system overall is moving to greater use of a whole range of health professionals in part due to the effort to promote population-based health, greater coordination of care, management of the chronically ill, and cost pressures. While nephrology makes some use of nurse practitioners (NPs) and physician assistants (PAs), it appears to do so to a lesser extent

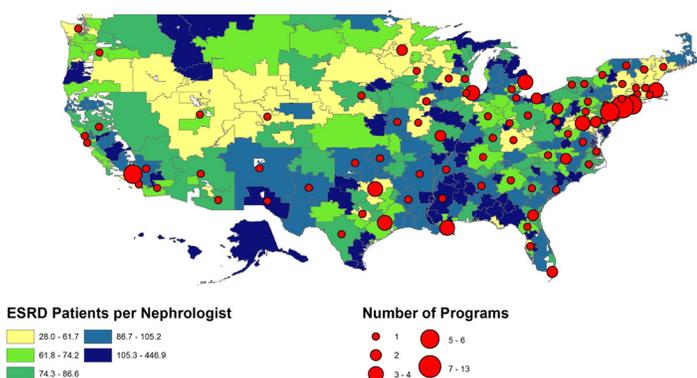
than other IM subspecialties. Promoting interprofessional education and practice could be viewed as part of any effort to reassess the career pathways for nephrologists. Hopefully, this will be viewed as a positive development that allows nephrologists to focus on what they are uniquely and best qualified to do. This should also improve the care of patients with kidney diseases and injury.

### Geographic Distribution of Nephrologists, Patients with Kidney Diseases, and Nephrology Fellowship Programs

Using data from the Dartmouth Atlas of Health Care, we analyzed the distribution of nephrologists, ESRD patients, number of patients per nephrologist, and location of current fellowship programs using Hospital Referral Regions (HRRs).

The supply of nephrologists, ESRD patients, and nephrology fellowship programs is not evenly distributed (Exhibit 1). Our analysis noted few fellowship programs in HRRs with the highest number of ESRD patients per nephrologist. Because these regions are likely to be among the areas with greatest need, any effort to align the number and location of training of nephrologists should focus on these areas. Not surprisingly, many HRRs near clusters of fellowship programs do not have high numbers of ESRD patients per nephrologist. This likely reflects the fact that many physicians locate in areas near where they have trained. A question that needs to be explored is whether nephrologists completing training in relatively rich nephrology supply areas are more likely to move to areas with greater need or stay in the region where the supply is already relatively high.

**Exhibit 1. Geographical Distribution of Nephrology Fellowship Programs and ESRD Patients per Nephrologist by HRR, 2011**



Source: GW Health Workforce Institute analysis of Dartmouth Atlas of Health Care; Fellowship program data from ACGME.

### Nephrology Fellowship Training Trends

Nephrology continued to lag behind all other IM subspecialties in the NRMP SMS Match—only 68% of positions and 50% of the programs filled in AY 2015–16. Although the Match rate remained flat at 92%, the number of applicants/position dropped from 0.8 to 0.7. The Accreditation Council for Graduate Medical Education (ACGME) noted an 8% drop in entrants into AY 2014–15 nephrology fellowships, and anecdotal reports suggest a further decrease in AY 2015–16.

**Exhibit 2: Change in Number of ACGME Nephrology Fellows in AY 2013–14 to AY 2014–15**

Fellows	AY 2013–14	AY 2014–15	Change	% Change
First Year	473	436	-37	-7.8%
Second Year	457	459	+2	+0.4%
Total	930	895	-35	-3.8%

Source: ACGME Data Resource Books for Academic Years 2013–14 and 2014–15.

### The Job Market for New Nephrologists: Findings from the 2015 Survey of Nephrologists Completing Training

Survey findings suggest the job market for new graduates continues to offer limited opportunities, especially for IMGs. In 2015, a higher proportion of both USMGs and IMGs completing nephrology fellowship indicated it was more difficult to find a satisfactory position than those completing training in 2014. Increased job applications by the 2015 US nephrology fellowship completers led to a decrease in those changing their plans due to limited practice opportunities compared to 2014. Although IMGs also increased their job applications, an even higher percentage had to change their plans in 2015 than in 2014.

**Exhibit 3. Percentage of Nephrology Fellows Having a Difficult Time Finding a Job They Were Satisfied With**

	2014	2015
USMGs	32.6%	43.4%
IMGs	67.7%	72.5%
Total	56.3%	60.6%

Although a majority of USMG and IMG nephrology fellowship completers continue to indicate they would recommend the specialty to residents and medical students, the proportion doing so decreased slightly between 2014 and 2015.

**Exhibit 4. Fellows Who Would Recommend Nephrology to Medical Students & Residents**

	2014	2015
USMGs	82.2%	74.4%
IMGs	65.7%	62.7%
Total	71.8%	67.7%

**Focus Groups with Practicing Nephrologists**

Practicing nephrologists who participated in the 3 focus groups shared their views of the specialty, discussed how care and their roles have changed, and gave their assessments of the adequacy of the supply to meet the needs for kidney care.

Among the key findings:

- » Despite the perceived challenges facing the specialty, participants believe nephrology is a very rewarding specialty; they value the patient relationships developed over many years of frequent contact, and relish its opportunities and intellectual challenges.
- » Nephrology practice has changed significantly in the past 10 years. Nephrologists are less likely to have a direct role in hospital care and many of the conditions and procedures they used to treat have been taken up by other specialties.
- » Although working with dialysis providers has helped to standardize care, nephrologists are not convinced the proliferation of dialysis units is proportionate to need.
- » Many nephrologists report working successfully with NPs and PAs serving as “extenders” within nephrology practices and primary care settings, primarily in routine dialysis care.
- » Impressions of a nephrologist shortage or surplus vary depending on their practice setting. They suggest the specialty’s low match rate is attributable to perceptions of a high workload, low reimbursement, and changing lifestyle expectations that have fueled trainees’ increased interest in hospital medicine and more procedure-oriented specialties.

**Findings from Interviews with Major Dialysis Providers**

Representatives of the large dialysis organizations, which dominate the delivery of dialysis services in the US, noted their decisions on service delivery, staffing levels, recruitment, and retention can directly impact on the demand and use of nephrologists. Among the key findings:

- » None of the representatives interviewed anticipated a decrease in their organization’s demand for nephrologists moving forward.
- » Although the representatives believe they could use more nephrologists, their organizations are also striving (and being pushed) to improve efficiency and they see room to make better use of nephrologists and other health professionals, including NPs and PAs.
- » While they have an interest in serving underserved communities they feel constrained by regulations and financing policies which discourage their movement into smaller underserved areas.
- » There was concern about the perceived mismatch between payment models and incentivizing improvements in nephrology practice.
- » Several expressed concern about the current state of the specialty, including the increasing fragmentation of care for patients with kidney disease. It was suggested that nephrology needs to redesign itself to offer a more attractive career option that will attract well-qualified physicians into the specialty.

## Trends in the Incidence and Prevalence of Kidney Disease and Injury

Assessing the future need for nephrologists requires a careful review of incidence and prevalence of kidney diseases and injury in the US, based on the US Renal Data System Annual Data Reports. Among the key findings:

- » The ESRD prevalence rate has been increasing at around 2% per year; overall prevalence has been rising faster than this owing to population increase;
- » A continuous fall in mortality rates has been in evidence among CKD patients over the past two decades, a fall even greater than that in mortality rates of non-CKD patients (albeit leaving mortality rates still higher for CKD patients than for non-CKD patients);
- » While incidence rates have leveled off for some conditions and population groups, the decrease in mortality rates is leading to continued increases in prevalence rates; and
- » The prevalence rate of CKD among African Americans has been consistently higher than for other racial/ethnic groups and increasing over time.

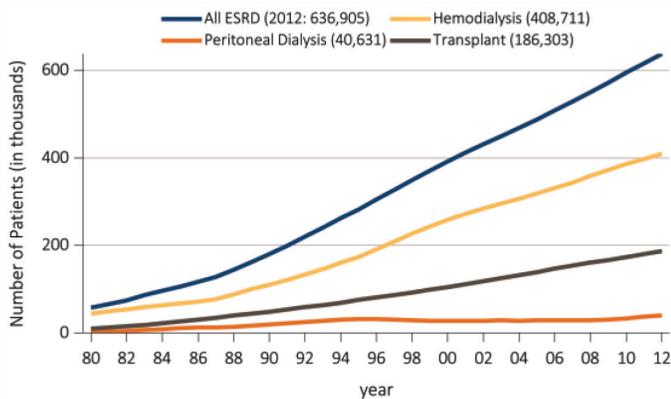
## Next Steps

Nephrology is facing a number of workforce challenges in the coming years. The GW Health Workforce Institute in consultation with ASN will continue to investigate a range of workforce issues in the coming year. Among the priorities are the following.

1. Assessing results of implementation of the NRMP SMS “all-in” policy.
2. Preparing the Report on the 2015 Survey of Nephrology Fellows Completing Training.
3. Undertaking a more detailed assessment of supply, demand, and distribution of nephrologists over the next decade.
4. Conducting further review of distribution and access issues across the country.
5. Continuing to assess changes in delivery and financing of kidney care.

**The views expressed in this report are solely those of the GW researchers and do not reflect the official policy of the American Society of Nephrology or George Washington University.**

**Exhibit 5. Trends in ESRD Prevalence by Modality 1980–2012**



Source: US Renal Data System 2014 Annual Data Report Fig 1.10 ([http://www.usrds.org/2014/download/Vol2\\_01\\_Inc-and-Prev\\_14\\_slides.pptx](http://www.usrds.org/2014/download/Vol2_01_Inc-and-Prev_14_slides.pptx))  
The data reported here have been supplied by the United States Renal Data System (USRDS). The interpretation and reporting of these data are the responsibility of the author(s) and in no way should be seen as an official policy or interpretation of the U.S. government

