

REPORT HIGHLIGHTS

The US Adult Nephrology Workforce 2016 Developments and Trends

Prepared for:

The American Society of Nephrology

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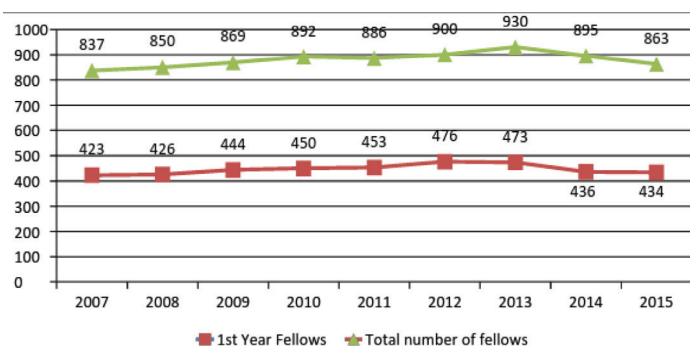
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Growth of the Specialty

- » The number of physicians entering adult nephrology—as measured by first-year fellows in Accreditation Council for Graduate Medical Education (ACGME)-accredited adult nephrology training programs—decreased from 473 in 2013/14 to 434 in 2015/16, an 8% decrease. However, preliminary numbers from 2016/17 indicate a slight subsequent increase. The longer term trend in positions and applicants remains unclear (Exhibit 1).

Exhibit 1: Number of Fellows: AY 2007/08 to AY 2015/16



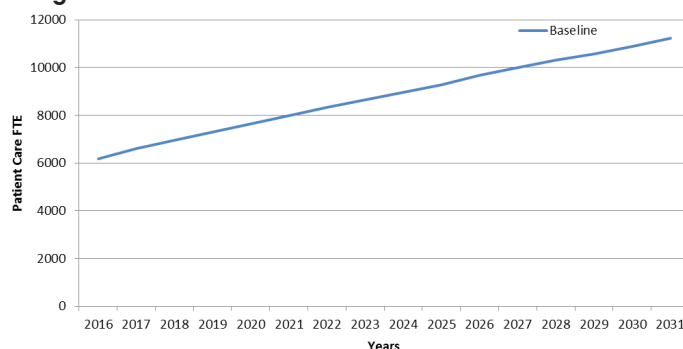
Source: ACGME Annual Data Resource Books

- » According to the AMA Masterfile of all physicians in the US, there were 10,100 patient care physicians listing nephrology as their first or second specialty in January 2016. According to Medicare claims databases 8,000 nephrologists filed Medicare claims in 2014.
- » Despite the uncertainty around the number of future trainees, the overall balance between new entrants and retirements means that the basic trend in total supply is one of continued growth for the foreseeable future. This reflects the fact that the number in training in recent years is well above the numbers 20 and 30 years ago.
- » The nation is now training more than 430 new adult nephrologists per year. This is equal to a 5-year total of

around 2150 new adult nephrologists. The number of active nephrologists in each of the 5-year cohorts between age 50 and 69 is about 1200 or less, and our survey of nephrologists aged 55 years and older indicates that many adult nephrologists expect to work until they are in their late 60s or early 70s; hence, the inflow is considerably higher than the outflow.

- » Based on recent levels of entrants, estimates of historical retirement rates, and number of full-time equivalent (FTE) adult nephrologists, we, in collaboration with the Sheps Center at the University of North Carolina, project a 76% increase in FTEs between 2016 and 2030 (Exhibit 2).

Exhibit 2: Forecast of Adult Nephrology Patient Care FTEs Through 2030



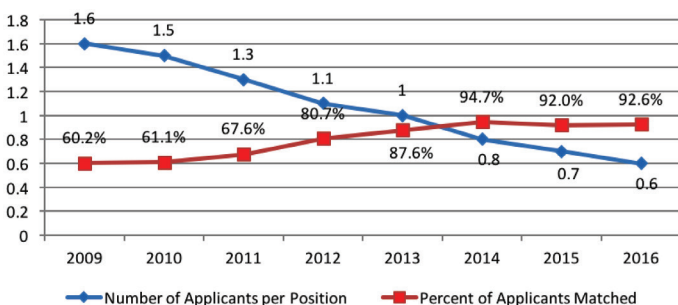
- » The percentage of nephrologists who are female is growing slowly. While 25% of all active nephrologists (and only 13.5% of active nephrologists over age 60) are female, 36% of nephrology fellows—the future workforce—are female. While this is encouraging, 41% of all IM residents and 44% of all residents and fellows are female, thus nephrology is not attracting a representative share of this important part of the physician workforce.



Results of the Nephrology Match

- » While the National Resident Matching Program (NRMP) nephrology Match results present only a partial picture of the future adult nephrology workforce (about 60% of the eventual adult nephrology fellows were matched through the NRMP in 2014/15 and 2015/16), it does provide valuable information. The number of matches made in the 2016/17 Match was higher than the previous year (going from 254 to 276); however, this likely reflects a large increase in nephrology positions offered in the Match (from 374 to 466) attributable to the first year of the All-In Policy. The number of adult nephrology matches remains low compared to the previous decade, when it was as high as 369 in 2013/14; in fact, the nephrology Match rate was the lowest of any internal medicine (IM) subspecialty in the Specialty Matching Service (SMS) Match in 2016/17.
- » The fact that positions offered went up more rapidly than applicants led to a further decrease in the ratio of applicants to positions down to 0.6 applicants for every offered position (Exhibit 3).

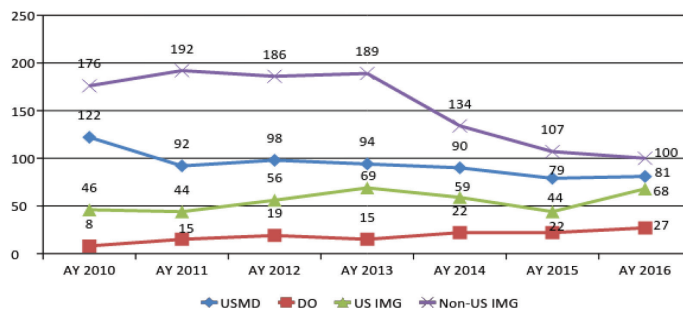
Exhibit 3: Trends in Nephrology Applications and Matches 2009 - 2016



Source: NRMP: "Results and Data: Specialty Matching Service," various years.

- » The drop in matches was caused by a sharp decrease in non-US international medical graduates (IMGs) being matched. From 2013/14 to 2016/17, the number of non-US IMGs matched dropped from 189 to 100, a decrease of 47% (Exhibit 4). The reason for this is unclear; the flow of non-US IMGs into other IM subspecialties through the NRMP over this period was generally stable and none experienced the level of decrease experienced by nephrology. Furthermore, it appears that there was not a significant decrease in the overall number of IMGs entering the specialty based on ACGME data; thus, many IMGs are entering after the Match.

Exhibit 4: Trends in NRMP Slots Filled in Nephrology AY 2010 to AY 2016



Source: NRMP: "Results and Data: Specialty Matching Service," various years.

- » It is too early to know if the decrease in ACGME positions between 2013/14 and 2015/16 along with an improving job market noted below will lead to an increase in applicants and a higher Match rate.

The Marketplace for New Adult Nephrologists: Results of the 2016 Survey of Fellows

In 2016, there was a noticeable improvement in adult nephrology fellows' experience in the job market compared to 2015 and 2014, although there are still challenges, especially for IMGs.

- » In 2016, 52.3% of fellows completing an adult nephrology fellowship who had searched for a job indicated it was difficult to find a satisfactory position; this was less than in 2015 and 2014 (60.3% and 56.3%, respectively.) US medical and osteopathic graduates (USMGs) continue to have significantly less difficulty than IMGs (26.9% vs. 68.8% in 2016) (Exhibit 5).

Exhibit 5. Percent Having a Difficult Time

	2014	2015	2016
USMGs	32.6%	43.4%	26.9%
IMGs	67.7%	72.5%	68.8%
Total	56.3%	60.6%	52.3%

- » USMGs were also significantly less likely to report changing their plans because of limited opportunities than IMGs, although the overall percentage changing plans declined slightly since 2015.
- » There was a notable decrease in the percent of USMGs and IMGs that reported no or very few jobs in the local job market and the views of the national job market improved as well (Exhibit 6).

Exhibit 6: Percent Responding “No jobs” or “Very few jobs”*

	USMGs			IMGs		
	2014	2015	2016	2014	2015	2016
Local	35.1%	35.2%	18.0%	56.3%	61.3%	37.5%
National	13.1%	5.6%	4.0%	29.9%	16.5%	12.5%

*This reflects the percentages for those who had searched for a position.

- » IMGs applied for high numbers of jobs at about the same rate in 2016 as in 2015, but their likelihood of receiving no job offers declined slightly.
- » The percentage of USMG and IMG nephrology fellows who indicated they would recommend the specialty to residents and medical students (71.8%) increased slightly compared to 2015.
- » The average income (base income plus incentives) of new nephrologists with confirmed practice plans was estimated to be \$193,000. This is 3% higher than the \$187,000 estimated for 2015 graduates.
- » Incomes were highest in suburban and small city locations (around \$200,000), with the lowest incomes in inner cities, about \$17,000 lower than in suburban and small city locations (Exhibit 7).

Exhibit 7: Expected Income by Practice Location

Practice Location	Expected Income
Inner City	\$183,000
Other area within major city	\$187,000
Suburban	\$199,500
Small city	\$200,500

Survey of Nephrologists Age 55 and Over

- » A survey of nephrologists aged 55 and over conducted by GWU-HWI for ASN found that these nephrologists are generally quite satisfied with most aspects of their career and benefits. Eighty-nine percent were very satisfied or satisfied with their career in medicine and nephrology, and 84% with their current position (Exhibit 8). Their satisfaction is further demonstrated by the fact that only 25% said they would retire if they could afford to.

Exhibit 8: Satisfaction with Medicine and Nephrology

	Medicine as a career	Nephrology as a specialty	Current position	Time with each patient
	Percentage of respondents			
No. of Respondents	(N=382)	(N=381)	(N=379)	(N=381)
Satisfaction Level				
Very satisfied	67.3	69.0	48.5	24.4
Somewhat satisfied	21.7	19.9	35.9	34.6
Neither satisfied or dissatisfied	2.1	3.4	5.3	9.7
Somewhat dissatisfied	5.8	4.5	6.9	20.7
Very dissatisfied	3.1	3.1	3.4	7.6
N/A				2.9
Totals	100.0	100.0	100.0	100.0

- » Only 5.5% of respondents reported their financial status as 'fair' or 'poor' compared to 72% who reported 'excellent' or 'very good' financial status (Exhibit 9). In addition, 94% reported their overall health status as 'good,' 'very good,' or 'excellent.'

Exhibit 9: Overall Financial Status

How would you rate your current financial status?	Percent (N=382)
Excellent	36.4
Very good	35.9
Good	22.3
Fair	5.2
Poor	0.3
Total	100.0

- » Most have relatively high incomes with the median income in the range of \$275,000 to \$299,999. Men on average reported higher incomes than women; this may reflect the fact that women were more likely to be working in academic practices (50% to 30%) and men were more likely to be practicing in group practices (50% to 32%). While 79% work 40 or more hours per week, most (60%) said part-time employment was available (28.5% said they were actually considering it), or that it wasn't available but that they would like the option (31%). Most planned to work till at least the age of 70; even among nephrologists aged 55 to 59, 74% expect to work at least to 65.
- » Perhaps reflecting the continual changes in medicine and nephrology, more respondents felt that the range of patient care they provided had increased over the past 5 years than felt it had decreased, and more of them reported being less satisfied with medicine than reported being more satisfied compared to 5 years ago (Exhibit 10).

Exhibit 10: Change in Satisfaction with Medicine

How does your current level of satisfaction with medicine compare to your satisfaction 5 years ago?	<65 Years Percent (N=229)	≥65 Years Percent (N=139)	Totals Percent (N=368)
Much more satisfied	4.4	7.9	5.7
Somewhat more satisfied	12.7	10.8	12.0
About the same	27.9	35.3	30.7
Somewhat less satisfied	30.6	24.5	28.3
Much less satisfied	24.5	21.6	23.4
Total	100.0	100.0	100.0



The views and findings in this report reflect the work of the George Washington University Health Workforce Institute (GWU HWI), and do not necessarily reflect the views of the American Society of Nephrology (ASN) or George Washington University. GWU HWI and ASN welcome feedback on this report. Please send your comments to workforce@asn-online.org.

- » The vast majority (83%) indicated they would recommend the specialty of nephrology to others.

The Changing Delivery System: ESCOs

- » To try to assess the potential impact of the introduction of the ESRD Seamless Care Organization (ESCO) model on the nephrology workforce, GWU-HWI staff began a series of interviews with ESCOs. With limited experience with the model to date, it is hard to judge the ultimate impact of the ESCO model on the supply/demand/use of nephrologists. It appears that the model is encouraging the use of teams including additional NPs, RNs, care coordinators, and others.
- » While this could free up nephrologist time and/or reduce demand for nephrologists, the desire to improve coordination and management of patients along with the incentive to limit overall costs could end up expanding the role of the nephrologist to provide more services and care management and reduce referrals to other physicians and hospitals; this would increase the demand for nephrologists.
- » Some in the field believe there would be benefits to expanding the ESCO model to include pre-dialysis patients, often referred to as moving "upstream." These patients would benefit from the care management, the ability to look at care options, and more preventive interventions.
- » Several representatives of ESCOs interviewed for this study noted the importance of cultural change for nephrologists to work effectively in the ESCO models, including working more closely in teams, managing patients' care and reducing hospital use, and providing a wider range of services to achieve these goals. Most representatives felt there were many rewards for the nephrologist if he/she could make the needed cultural changes, including improved outcomes, greater control over their schedules and workload, and increased remuneration.
- » These changes in culture and practice also need to be taught to nephrologists in training.