Report on the
2015 Survey of Nephrology Fellows

Prepared for
The American Society of Nephrology

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Preface

Physicians in training represent the future practitioners in their field and provide a picture of the future supply. The experience of those completing their training and about to embark on their careers is also an indicator of physician demand in their specialty. For these reasons, in 2014 and 2015 the George Washington University Health Workforce Institute research team, working closely with the American Society of Nephrology (ASN), conducted an online survey of current nephrology fellows and trainees to obtain data on demographic and educational background, educational debt, career plans, job search experiences, and factors influencing job opportunities and choices.

In 2015, the survey tool—adapted from the University at Albany Center for Health Workforce Studies (CHWS) annual NY State Resident Exit Survey and slightly modified from 2014—was distributed to 1324 ASN Fellow/Trainee members (to whom ASN offers free membership) in June and July 2015. Among the 895 fellows in their first and second year of Accreditation Council for Graduate Medical Education (ACGME)–accredited nephrology training programs, we received responses from 325 fellows (36.3% response rate). The response rate for second year fellows was 40.3% (185 of 459).

This report presents demographic information for respondents in all years of fellowship and training, as well as job market experiences and fellows' plans for their 2nd year of fellowship or beyond. It also presents data on job offers accepted by nephrology fellows and their assessments of the overall state of the specialty and job market. For all of the statistical tests presented, we considered probability values <0.05 to be statistically significant.

Key Findings

The job market for those completing training continues to offer limited opportunities especially for international medical school graduates (IMGs) who continue to represent a majority of fellows in nephrology. In 2015, a higher percentage of both US medical graduates (USMGs) and IMGs completing nephrology fellowship indicated that it was more difficult to find a satisfactory position than fellows who completed training in 2014. Increased job applications by the 2015 USMG nephrology fellows appears to have contributed to a decrease in the percentage that had to change their plans due to limited practice opportunities compared to 2014. While IMGs also increased their job applications, an even higher percentage had to change their plans in 2015 than in 2014. The job market in areas surrounding training programs continues to offer few job opportunities although the perception of the national job market was better than the local market and improved for USMGs. IMGs with temporary visas were once again far more likely to go into practice in underserved areas. While a majority of USMG and IMG nephrology fellows continue to indicate they would recommend the specialty to residents and medical students, this percentage decreased slightly in 2015.

- Respondents to the 2015 Nephrology Fellows Survey had a similar demographic profile to 2014 respondents—more than 60% were IMGs and about 60% were male. The largest age group was 31–35 years, with IMGs significantly older than USMGs (34.3 years vs. 32.5 years, respectively—$p<0.01$). The majority of IMGs (>70%) had no educational debt, while most USMGs had at least $100,000 of debt.
- Among respondents in their second year of fellowship or beyond who indicated their plans for the upcoming year, the largest proportion indicated that they planned to enter clinical nephrology practice (50.7%). The next largest group (16.4%) planned to pursue additional subspecialty training, followed by 15.0% who intended to continue their current fellowships. Frequently reported areas of continuing training included transplant nephrology and research.
- Job market experiences continue to be starkly different for IMG and USMG fellows: IMGs were more likely than USMG fellows to report applying for large numbers of jobs, having difficulty finding a satisfactory position, and changing plans because of limited opportunities. They were also more likely to report moving to a different state from their training program for than USMGs.
- Nephrology fellows perceive limited local job opportunities—65% reported there were no, very few, or few nephrology practice opportunities within 50 miles of their training sites, a slight improvement over 2014 (71%).
- There was a statistically significant difference in IMG and USMG fellows' assessments of national nephrology practice opportunities ($p<0.01$). IMGs were more likely than USMGs to report that there were no, very few, or few job opportunities available (40.6% vs. 19.7%, respectively), and USMGs were more likely than IMGs to report that there were some or many job opportunities nationally (73.8% vs. 48.5%, respectively).
- Among respondents who had accepted job offers and indicated their anticipated practice setting, 49.4% reported planning to work in nephrology group practices. Another 16.7% planned to work in academic nephrology practices, and 11.2% intended to work with multispecialty group practices. A small number of respondents (9.0%) indicated they planned to work as hospitalists.
- Fellows' anticipated salaries in 2015 were similar to 2014; the median anticipated salary for all demographic groups (by IMG status and sex) was between $175,000 and $199,999. Anticipated incentive income was relatively small for all demographic groups ($5000 or less).
- Some fellows reported receiving incentives for accepting their primary jobs. Frequently cited incentives included income guarantees, support for maintenance of certification (MOC) and continuing medical education (CME), and relocation allowances.
- A small number of fellows who had accepted employment reported having secondary jobs in addition to their primary position. Frequently cited secondary jobs included medical directorships with dialysis companies, hospital care, and moonlighting.
- While 23.5% of IMGs (31 respondents) indicated an obligation to work in a federally designated Health Professional Shortage Area (HPSA), only 1 (1.2%) USMG did so. The difference in the distribution of HPSA service obligations by IMG status was highly significant ($p<0.01$). IMGs appear to be making an important contribution to care in underserved areas.
- Despite the challenging job market, the majority of fellows (>70% overall) would recommend the specialty to medical students and residents. Fellows recommending nephrology cited the field's intellectual challenge, variety of activities, and patient relationships as reasons for their positive assessments. Fellows who would not recommend nephrology to medical students and residents cited the heavy workload, low compensation, difficult schedule relative to hospital medicine and other specialties, undervaluing of the specialty by other specialties, and the loss of procedures to other specialties as reasons for their negative assessments.

Overview of Respondents

The 375 respondents to the 2015 Nephrology Fellows Survey included fellows in their first and second year of their ACGME training program, as well as third-, fourth-, and fifth-year fellows in subspecialty training or research positions. Of the 375 respondents, 235 had completed at least 2 years of nephrology training; 133 had searched for a job; and 91 had accepted a job offer. Different sections of this report present findings on each of these groups of fellows. (The totals in each data table vary depending on the number of respondents who answered the particular question or questions being shown.)

Exhibit 1. Respondents by Fellowship Year*

	No. of Fellows	Percent
1st Year	140	37.3%
2nd Year	185	49.3%
3rd Year	28	7.5%
4th year or more	22	5.9%
Total	375	100%

*Excluding pediatric nephrology fellows.

To assess the representativeness of the survey sample, we compared several demographic and educational characteristics of the 235 survey respondents in their first and second years of training to ACGME data on all 895 first- and second year-fellows. Respondents had very similar characteristics to all ACGME first- and second-year nephrology fellows, although the survey sample included slightly fewer IMGs and slightly more Hispanic/Latino respondents.

Exhibit 2. Comparison of 1st- and 2nd-Year Fellows Survey Respondents with ACGME Data*

	2015 Respondents	ACGME Data
Percent Male	60.4%	60.7%
Percent IMG	64.8%	67.9%
Percent African American	5.5%	5.6%
Percent Hispanic/Latino	7.3%	6.4%

*Excludes pediatric nephrology fellows; includes only 1st- and 2nd-year fellows.

Education, Citizenship Status, and Demographics of Respondents

This section presents data on the educational background, citizenship status, and demographics of all respondents to the 2015 Nephrology Fellows Survey.

Location of Medical School

Exhibit 3. Medical School Location*			
Where did you attend medical school?	2015 Respondents	2015 Percent	2014 Percent
U.S.	128	36.0%	35.6%
Canada	2	0.6%	1.0%
Other country	226	63.5%	63.4%
Total	356	100%	100%
*Excluding pediatric nephrology fellows.			

As in 2014, most 2015 survey respondents (63.5%) attended medical school outside the United States and Canada. These IMG respondents reported attending medical school in 44 different countries, the most frequently cited of which were India (74 respondents), Pakistan (12 respondents), China (11 respondents), and Jordan (11 respondents).

Exhibit 4. Citizenship Status*			
What is your current citizenship status?	2015 Respondents	2015 Percent	2014 Percent
Native Born U.S. citizen	114	32.3%	35.3%
Naturalized U.S. citizen	63	17.9%	16.3%
Permanent Resident	55	15.6%	15.6%
H-1, H-2, or H-3 visa (temporary worker)	55	15.6%	15.6%
J-1 or J-2 visa (exchange visitor)	66	18.7%	17.3%
Total	353	100%	100%
*Excluding pediatric nephrology fellows.			

The distribution of 2015 survey respondents' citizenship status was also very similar to that of 2014 respondents. About half of the 2015 respondents reported that they were US citizens, either native born or naturalized, and 15.6% reported that they were permanent residents of the United States. About one-third of the respondents were non-citizen holders of either H or J visas.

As in 2014, we identified a small number of respondents who could be considered US IMGs, that is, US citizens who received their medical education outside the US. Eight respondents (6.4% of all IMGs who indicated their citizenship status) indicated that they were native-born US citizens who had received their medical education in another country.

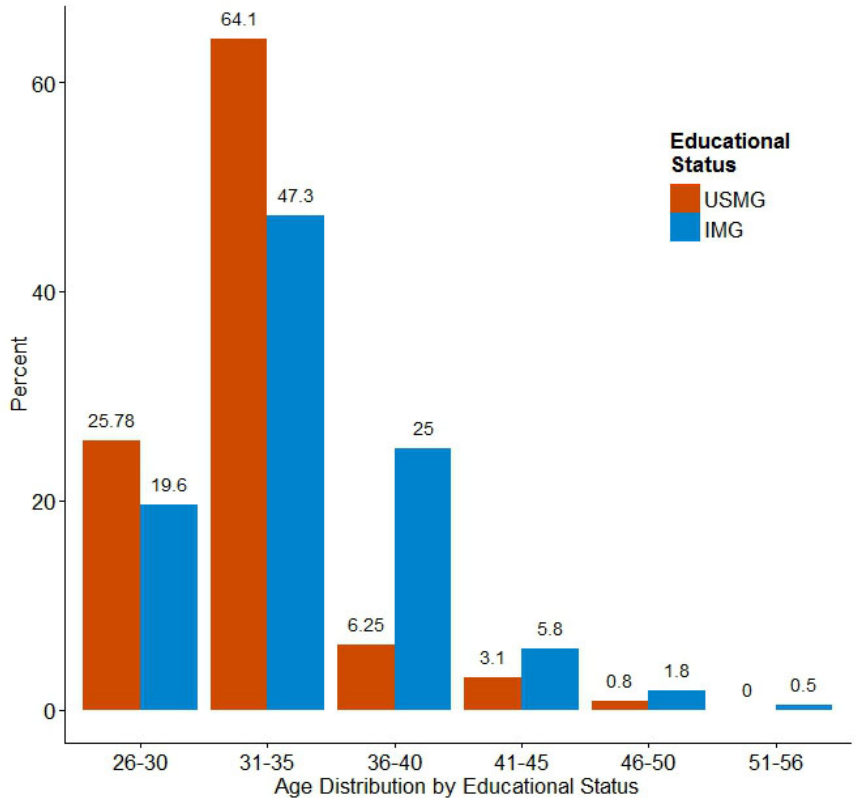
Sex

Exhibit 5. Sex of 2015 Respondents*						
	USMG		IMG		Total	
Respondents' Sex	No.	Percent	No.	Percent	No.	Percent
Female	63	49.6%	80	35.2%	143	40.4%
Male	64	50.4%	147	64.8%	211	59.6%
Total	127	100%	227	100%	354	100%
*Excluding pediatric nephrology fellows.						

As in 2014, the majority of 2015 survey respondents (59.7%) were male. The gender distribution of IMGs and USMGs was significantly different ($p<0.01$): IMGs were more likely to be male (64.8% vs. 35.2% female), while the distribution among USMGs was more evenly balanced (50.4% male vs. 49.6% female). But because the proportion of IMGs in the sample was so large, the 80 female IMGs—a minority of IMG respondents—represented a majority (55.9%) of all female respondents.

Age

Exhibit 6. Age of 2015 Respondents



Respondents ranged in age from 26 to 52 years old. The largest age group was 31 to 35 years, which included more than one-half of respondents. IMG respondents were significantly older on average than USMG respondents (34.3 years vs. 32.5 years—$p<0.01$).

Race/Ethnicity

Exhibit 7. Race of 2015 Respondents*						
Respondents' Race	USMG		IMG		Total	
	No.	Percent	No.	Percent	No.	Percent
Asian/Pacific Islander	45	35.7%	109	47.8%	154	43.5%
White	64	50.8%	60	26.3%	124	35.0%
Black/African American	7	5.6%	12	5.3%	19	5.4%
American Indian/Alaska Native	1	0.8%	0	0.0%	1	0.0%
Other	10	7.9%	49	21.5%	59	16.7%
Total	126	100%	228	100%	354	100%
*Excluding pediatric nephrology fellows.						

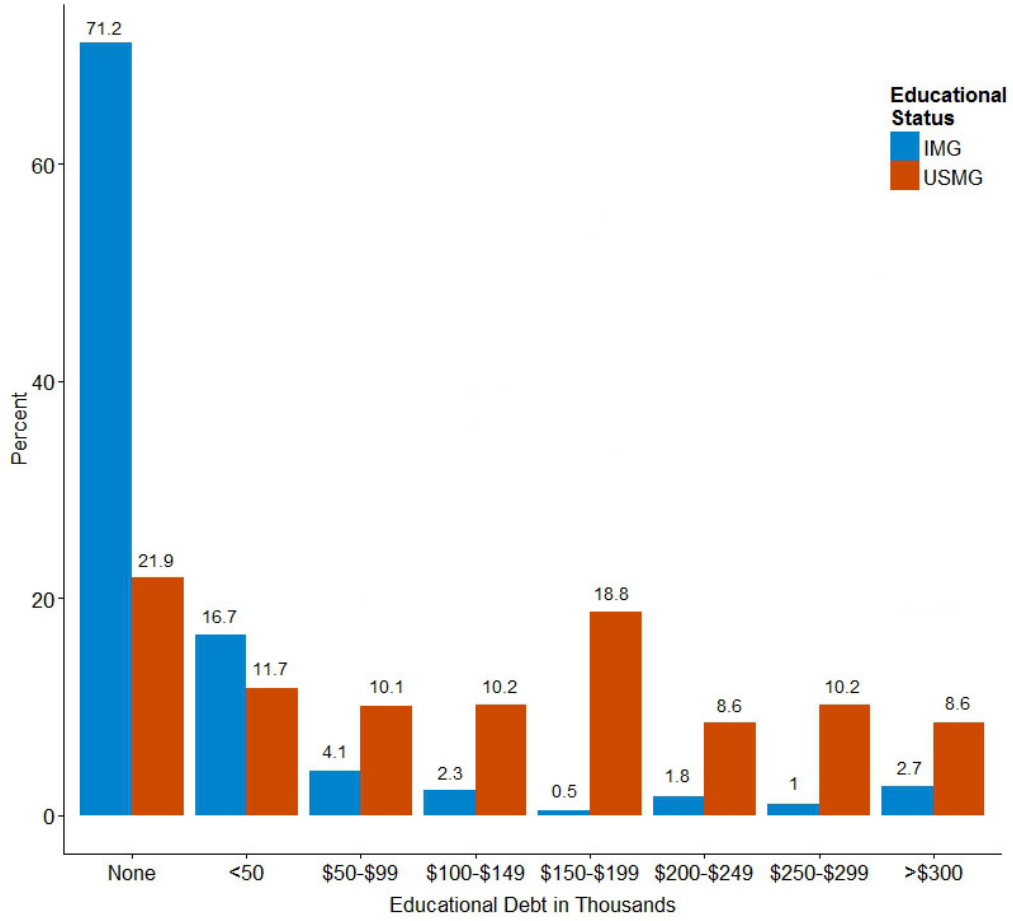
Nearly one-half of the respondents identified themselves as Asian, and an additional 35% of respondents identified themselves as white. The distribution of race/ethnicity was significantly different across IMG categories: IMGs were significantly more likely to report being Asian ($p<0.01$) or of "other" race ($p<0.05$) than USMGs, and USMGs were significantly more likely to report being white than IMGs ($p<0.01$). The proportions of respondents who reported that they were black were not significantly different in the USMG and IMG groups.

Exhibit 8. Ethnicity of 2015 Respondents*						
	USMG		IMG		Total	
Are you Hispanic/Latino?	No.	Percent	No.	Percent	No.	Percent
Yes	11	8.6%	15	6.6%	26	7.3%
No	117	91.4%	211	93.4%	328	92.7%
Total	143	100%	240	100%	383	100%
*Excluding pediatric nephrology fellows.						

A small proportion of respondents (7.3%) identified themselves as Hispanic or Latino. IMG respondents were less likely to identify themselves as Hispanic or Latino than USMG respondents, but the difference was not statistically significant ($p=0.50$).

Educational Debt

Exhibit 9. Educational Debt



Respondents' reported levels of educational debt varied from no debt to >$300,000. IMGs were much less likely to be in debt than USMGs—more than 70% of IMG respondents reported having no educational debt compared with only 22% of USMGs ($p<0.01$). An additional 17% of IMGs reported educational debt levels <$50,000. USMG respondents were more likely than IMGs to report debt levels >$50,000. USMGs were overrepresented relative to the total sample in every debt tier >$50,000. Almost 9% of USMG respondents reported having >$300,000 of educational debt. IMG respondents had a median educational debt of $0, while USMG respondents had a median educational debt of between $125,000 and $149,999.

Obligations to Practice in Underserved Areas

Exhibit 10. Obligation to work in HPSA*						
	USMG		IMG		Total	
Do you have an obligation or visa requirement to work in a federally designated Health Professional Shortage Area?	No.	Percent	No.	Percent	No.	Percent
Yes	1	1.2%	31	23.5%	32	14.8%
No	84	98.8%	101	76.5%	185	85.3%
Total	85	100%	132	100%	217	100%
*Excluding pediatric nephrology fellows and including only 2nd year and beyond.						

The survey asked respondents if they had an obligation to work in an underserved area. For USMGs this likely reflects the receipt of a service-conditioned scholarship or loan repayment award. For graduates of foreign schools with a temporary J-1 visa (which allows them to come to the United States for the purpose of obtaining graduate training) this is likely to be interpreted as their need to practice in a federally designated shortage area in order to be exempt from the requirement that they return to their country of origin after training.

While 23.5% of IMGs (31 respondents) indicated an obligation to work in a federally designated HPSA, only 1 (1.2%) USMG did so. The difference in the distribution of HPSA service obligations by IMG status was highly significant ($p<0.01$).

Post-Training Plans (2nd Year & Beyond Fellows Only)

Activity After Completion of Current Training Program

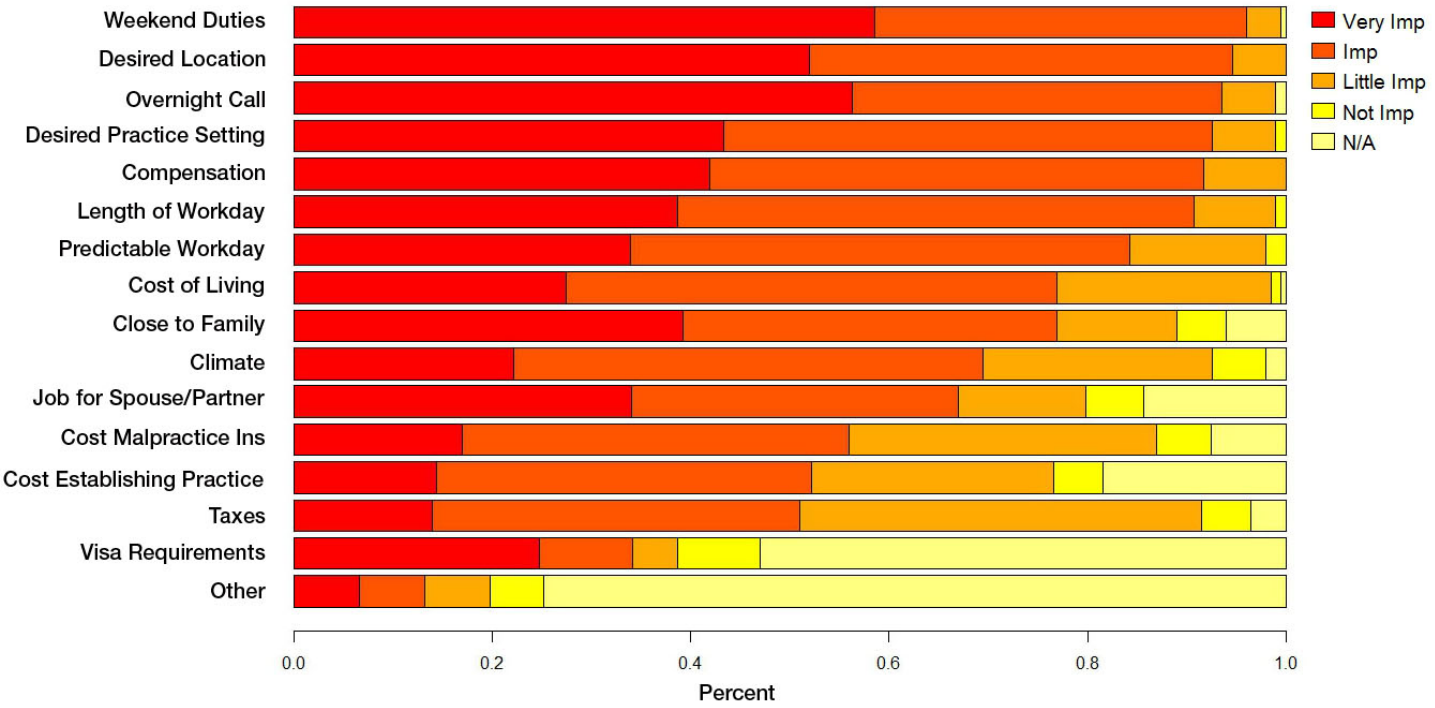
Exhibit 11. Activity After Completion of Current Training Program*		
What do you expect to be doing at the end of the 2014–2015 training year?	No. of Fellows	Percent
Continue Current Fellowship	32	15.0%
Additional Subspecialty Training or Fellowship	35	16.4%
Clinical Practice	108	50.7%
Teaching/Research (in non-training position)	20	9.4%
Temporarily Out of Medicine	3	1.4%
Undecided/Don't Know Yet	11	5.2%
Other	4	1.9%
Total	213	100%
*Excluding pediatric nephrology fellows and including only 2nd year and beyond.		

Among respondents in their second year of fellowship or beyond who indicated their plans for the upcoming year (n=213), the largest percentage planned to enter clinical nephrology practice (50.7%). The next largest group (16.4%) intended to pursue additional subspecialty training, followed by 15.0% who said they would continue in their current fellowships. Among the 66 fellows who planned to continue their training (either through additional subspecialty training or by continuing in their current fellowships), the largest groups said they planned to pursue training in research and transplant nephrology (40.9% [27 respondents] each). A smaller group (6.0% [4 respondents]) said they planned to pursue training in interventional nephrology. Other types of training respondents mentioned included critical care, hypertension, and glomerular disease.

We found no significant differences in the distribution of anticipated activities between USMG and IMG fellows ($p=0.47$) or male and female fellows ($p=0.33$).

Factors Influencing Job Selection

Exhibit 12. Factors Influencing Job Selection



Respondents in their second year of fellowship or beyond rated the following factors as very important or important in their job selection:

- Frequency of weekend duties (96.1% very important or important)
- Job/practice in desired location (94.6%)
- Frequency of overnight call (93.6%)
- Job/practice in in desired practice setting (92.6%)
- Salary/ compensation (91.7%)
- Length of each workday (90.7%)

They rated the following factors as least important:

- Cost of malpractice insurance (56.0% very important or important)
- Cost of setting up a medical practice (52.2%)
- Taxes (51.0%)
- Job/practice meets visa requirements (34.2%)

USMGs and IMGs differed significantly when rating the following factors:

- Proximity to family (USMGs more likely than IMGs to rate as very important or important, IMGs more likely to rate as not important or not applicable, $p<0.05$)
- Job/practice meets visa requirements (IMGs more likely than USMGs to rate as very important or important, $p<0.01$)

USMG and IMG ratings of all other factors were not significantly different.

Male and female fellows' differed significantly when rating the following factors:

- Job/practice in desired setting (female fellows more likely than male fellows to rate as very important or important, $p<0.05$)
- Employment opportunities for spouse/partner (female fellows more likely than male fellows to rate as very important or important, $p<0.01$)
- Climate (male fellows more likely than female fellows to rate as not important at all, $p<0.01$)

Male and female fellows' ratings of other factors were not significantly different.

Job Market Experiences & Perceptions

Job Search Experiences

This section reports on the experiences of the 133 nephrology fellows who had searched for employment. In general, the 2015 job market was still challenging, especially for IMG fellows who were more likely than USMG fellows to report applying for large numbers of jobs, having difficulty finding a satisfactory position, and changing plans because of limited opportunities.

Number of Job Applications

About 55% of fellows who had searched for a job reported applying for between 1 and 5 jobs, and 41% reported that they had applied for at least 6 jobs (including 24.2% who applied for more than 10 jobs). Only a few fellows (3.8%) reported that they had not applied for any jobs.

We found a statistically significant difference in the number of job applications between IMG and USMG fellows ($p=0.01$): IMGs were more likely than USMGs to apply for more than 10 jobs (35.4% vs. 7.6%), and USMGs were more likely than IMGs to apply for 1 job (20.8% vs. 8.9%).

We found no statistically significant differences existed in the number of job applications between male and female fellows ($p=0.66$).

Number of Job Offers

The majority of nephrology fellows (71.2%) reported receiving between 1 and 3 job offers, and 7.6% of fellows reported receiving no job offers.

We found no statistically significant differences in the number of job offers between IMG and USMG fellows ($p=0.09$) or male and female fellows ($p=0.23$).

Difficulty Finding a Satisfactory Position

A majority of respondents (60.6%) who had searched for jobs reported having difficulty finding a satisfactory position (Exhibit 13). We found a statistically significant difference between IMG and USMG fellows' reports of difficulty finding a position ($p<0.01$): while 72.5% of IMGs reported having difficulty finding a position they were satisfied with, only 43.4% of USMGs reported having difficulty.

We found no statistically significant difference in reports of difficulty finding a position between male and female fellows ($p=0.91$).

Exhibit 13: Nephrology Fellows Having a Difficult Time Finding a Satisfactory Position

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

Reasons for Difficulty

Among the fellows who reported difficulty finding a satisfactory position, the most frequently cited reasons were lack of jobs/practice opportunities in desired locations (27.2%), lack of jobs/practice opportunities that meet visa status requirements (24.7%), and inadequate salary/compensation (20.1%).

We found a statistically significant difference in reasons for difficulty finding a position between IMG and USMG fellows ($p<0.01$). IMGs were more likely than USMGs to cite lack of jobs that meet visa requirements (34.5% vs. 0%) and lack of jobs in desired locations (31.0% vs. 17.4%). USMGs were more likely than IMGs to cite overall lack of jobs (21.7% vs. 12.0%), lack of jobs in desired practice setting (21.7% vs. 3.5%), and inadequate salary/compensation (34.8% vs. 15.5%).

We also found a statistically significant difference in the reasons for difficulty finding a position between male and female fellows ($p=0.01$). Male fellows were more likely than female fellows to cite lack of jobs that meet visa requirements (32.0% vs. 13.3%) and inadequate salary/compensation (28.0% vs. 6.7%), and female fellows were more likely than male fellows to cite overall lack of jobs (20.0% vs. 12.0%) and lack of jobs in desired locations (36.7% vs. 22.0%), and practice settings (16.7% vs. 4.0%).

Changing Plans due to Limited Practice Opportunities

Among respondents who had looked for jobs, 42.9% reported that they had changed their plans because of limited practice opportunities. IMG respondents were significantly more likely to report changing their plans than USMGs (56.3% vs. 22.6%, respectively, $p<0.01$). We found no statistically significant differences in male and female fellows' likelihood of changing their plans ($p=0.96$).

Job Market Perceptions

When we asked all fellows in their second year of fellowship and beyond to report on their perceptions of the local and national job markets, we found a similar pattern to IMG and USMG fellows' reports of their job market experiences. While fellows' overall impressions of their local job markets improved by a small amount relative to 2014, IMG fellows had poorer impressions of both the local and national job markets relative to USMG fellows. Fellows in both groups continued to rate the national job market better than their local job markets, also in keeping with findings from 2014.

Local Job Market Perceptions

Nephrology fellows' perceptions of local nephrology job opportunities were slightly improved since 2014: while 50.1% reported that there were no or very few, nephrology practice opportunities within 50 miles of their training sites in 2014, the proportion reporting the same in 2015 fell to 46.9%.

We found a statistically significant difference in IMG and USMG fellows' assessments of local nephrology practice opportunities ($p<0.01$): USMGs were more likely than IMGs to report that there were many or some job opportunities in their local area (37.2% vs. 20.5%). It is also worth noting that no IMGs reported that there were many opportunities in their local areas.

We found no statistically significant differences in local job market perceptions between male and female fellows ($p=0.83$).

Exhibit 14. Nephrology Fellows Responding "No Jobs" or "Very Few Jobs"

	USMGs		IMGs	
	2014 Respondents	2015 Respondents	2014 Respondents	2015 Respondents
Local	50.1%	46.9%	54.6%	53.8%
National	13.1%	3.9%	28.3%	19.5%

National Job Market Perceptions

Nephrology fellows perceived national nephrology job opportunities much more positively than local opportunities: 58.0% reported there were some or many nephrology practice opportunities nationally.

We also found a statistically significant difference in IMG and USMG fellows' assessments of national nephrology practice opportunities ($p<0.01$). IMGs were more likely than USMGs to report that there were no or very few job opportunities available (19.5% vs. 3.9%), and USMGs were more likely than IMGs to report that there were some or many job opportunities nationally (73.8% vs. 48.5%).

We found no statistically significant differences in national job market perceptions between male and female fellows ($p=0.70$).

Job Offer Characteristics

Among the 91 nephrology fellows who had already accepted job offers, we found the following with respect to their salary and compensation expectations.

Practice Setting

Among respondents who had already accepted job offers and indicated their anticipated practice setting (n=89), nearly one-half (49.4%) reported that they planned to work in nephrology group practices. Another 16.7% reported that they planned to work in academic nephrology practices, and 11.2% said they planned to work with multispecialty group practices. A small number of respondents also indicated that they planned to work as hospitalists (8 fellows [9.0% of respondents]).

Exhibit 15. Setting of Primary Nephrology Job*		
Which of the following best describes the type of practice setting of your primary nephrology job?	No. of Fellows	Percent
Partnership (2 people)	6	6.7%
Group Practice (exclusively nephrology)	44	49.4%
Group Practice (multispecialty)	10	11.2%
Academic Practice (exclusively nephrology)	14	15.7%
Academic Practice (multispecialty)	4	4.5%
Dialysis Provider	1	1.1%
Hospital	8	9.0%
Other	2	2.3%
Total	89	100%
*Excluding pediatric nephrology fellows and including only 2nd year fellows and beyond who had already accepted a job offer.		

The distribution of patient care settings was significantly different for USMG and IMG fellows (p=0.01). USMG fellows were more likely to report that they planned to work in nephrology group practices than IMGs (63.4% vs. 37.5%), and more likely to say that they planned to work in academic nephrology practices (22.0% vs. 10.4%). IMG fellows were more likely than USMGs to report planning to work in all other settings, including partnerships, multispecialty and academic group practices, and hospitals.

We found no significant differences in the distribution of patient care settings between male and female fellows (p=0.81).

Location of Practice

Exhibit 16. Location of Primary Nephrology Job (Demographics)*						
Which best describes the demographics of the area of your primary nephrology job?	USMG		IMG		Total	
	No.	Percent	No.	Percent	No.	Percent
Inner City	7	17.1%	10	20.8%	17	19.1%
Other Area within Major City	15	36.6%	10	20.8%	25	28.1%
Suburban	11	26.8%	18	37.5%	29	32.6%
Small City (population <50,000)	7	17.1%	6	12.5%	13	14.6%
Rural	1	2.4%	4	8.3%	5	5.6%
Total	41	100%	48	100%	89	100%
*Excluding pediatric nephrology fellows and including only 2nd year fellows and beyond who had already accepted a job offer.						

Among respondents with jobs who also reported the demographics of the areas where they planned to practice (n=89), nearly one-half (47.2%) indicated that they planned to work in urban areas (inner city or other). Another 32.6% said they planned to work in suburban areas, and 14.6% said they planned to work in small cities. Only 5.6% intended to work in rural areas. We found no statistically significant differences between USMG and IMG fellows' anticipated practice locations (p=0.36).

Exhibit 17. Location of Primary Nephrology Job (HPSA)*						
Is this practice address located in a federally designated Health Professional Shortage Area?	USMG		IMG		Total	
	No.	Percent	No.	Percent	No.	Percent
Yes	2	4.9%	13	27.7%	15	17.1%
No	25	61.0%	22	46.8%	47	53.4%
Don't Know	14	34.2%	12	25.5%	26	29.6%
Total	41	100%	47	100%	88	100%
*Excluding pediatric nephrology fellows and including only 2nd year fellows and beyond who had already accepted a job offer.						

Among the 88 respondents who had accepted job offers, 17.1% (15 respondents) reported their principal practice address was in a HPSA, most of whom were IMGs (13 of 15 respondents). The difference in distribution of IMGs' and USMGs' practice locations was statistically significant (p<0.05).

Base Salary/Income

Among the fellows who had accepted job offers, more than 60% anticipated annual base salaries between $150,000 and $199,999. Their expected salaries ranged from <$100,000 to >$300,000.

Exhibit 18. Expected Income and Incentive Income by Practice Location*			
Practice Location	Base Income	Incentive Income	Total Income Range
Inner city	$150,000–$174,999	$0	$150,000–$174,999
Other area within major city	$150,000–$174,999	$0	$150,000–$174,999
Suburban	$175,000–$199,999	<$5,000	$175,000–$204,999
Small city (population <50,000)	$175,000–$199,999	$5,000–$9,999	$180,000–$210,000
Rural	$175,000–$199,999	$0	$175,000–$199,999
*Excluding pediatric nephrology fellows and including only 2nd year fellows and beyond who had already accepted a job offer.			

Median salaries differed slightly between different locations: fellows with jobs in inner city and other major city locations had a lower median salary ($150,000–$174,999) relative to those with jobs in suburban, small city, and rural locations ($175,000–$199,999).

We found no significant differences in expected salaries between IMGs and USMGs (p=0.75) or male and female fellows (p=0.39). Median expected salaries for all demographic groups (by IMG status and gender) all fell into the same range of between $175,000 and $199,999. Compared to 2014, this was unchanged for female fellows (IMGs and USMGs) but represented a small increase for male fellows (IMGs and USMGs) (2014 reported median expected incomes of between $150,000 and $174,999).

Exhibit 19. Median Expected Base Salary by Citizenship Status & Sex*				
	2015		2014	
	Female	Male	Female	Male
IMG	$175,000–$199,999	$175,000–$199,999	$175,000–$199,999	$150,000–$174,999
USMG	$175,000–$199,999	$175,000–$199,999	$175,000–$199,999	$150,000–$174,999
*Excluding pediatric nephrology fellows and including only 2nd year fellows and beyond who had already accepted a job offer.				

Anticipated Additional Incentive Income

More than one-half (51.3%) of fellows who had accepted job offers did not anticipate receiving any additional incentive income. Among those expecting to receive incentive income, most reported that they expected to earn <$10,000, although the range of expected incentives extended to >$60,000 for one fellow.

We found no significant differences in expected incentive income between IMGs and USMGs (p=0.27) or male and female fellows (p=0.81).

Exhibit 20. Additional Incentive Income by Citizenship Status & Sex*

	2015		2014	
	Female	Male	Female	Male
IMG	<$5,000	$0	$5,000–$9,000	<$5,000
USMG	<$5,000	<$5,000	<$5,000	$0

*Excluding pediatric nephrology fellows and including only 2nd year fellows and beyond who had already accepted a job offer.

Expected incentive income was limited for all demographic groups, all of which (except male IMGs) had median expected additional incentive incomes of <$5000. Male IMGs had a median expected incentive income of $0. Median incentive income figures were relatively on par with 2014, except for female IMG fellows whose median incentive income dropped from $5,000–$9,999 to <$5,000 in 2015.

Secondary Jobs

Among the respondents who had accepted nephrology jobs, 15 indicated that they planned to take on a second nephrology job in addition to their primary job. The majority (8 respondents [53.3%]) planned to take medical directorships with dialysis providers. Other types of secondary jobs included hospital care (4 respondents [26.7%]), moonlighting in non-nephrology inpatient units (3 respondents [20.0%]) or nephrology inpatient units (2 respondents [13.3%]), joint ventures with dialysis providers (2 respondents [13.3%]), and outpatient care (1 respondent [6.7%]).

While not all fellows who had accepted secondary nephrology jobs reported their expected income, most of those who did (7 of 8 [87.5%]) expected to earn <$25,000 in their secondary jobs. One fellow reported an anticipated secondary income between $25,000 and $49,999.

Satisfaction with Salary/Compensation

The majority of fellows who had accepted job offers indicated they were satisfied with their salary and compensation. Approximately 28.6% reported being “very satisfied,” and 47.6% indicated that they were “somewhat satisfied” with their salary and compensation.

We found no statistically significant difference in satisfaction with salary and compensation between IMGs and USMGs (p=0.66) or male and female fellows (p=0.89).

Incentives

When asked to identify the incentives they had received for accepting their primary job offers, respondents were most likely to report receiving the following:

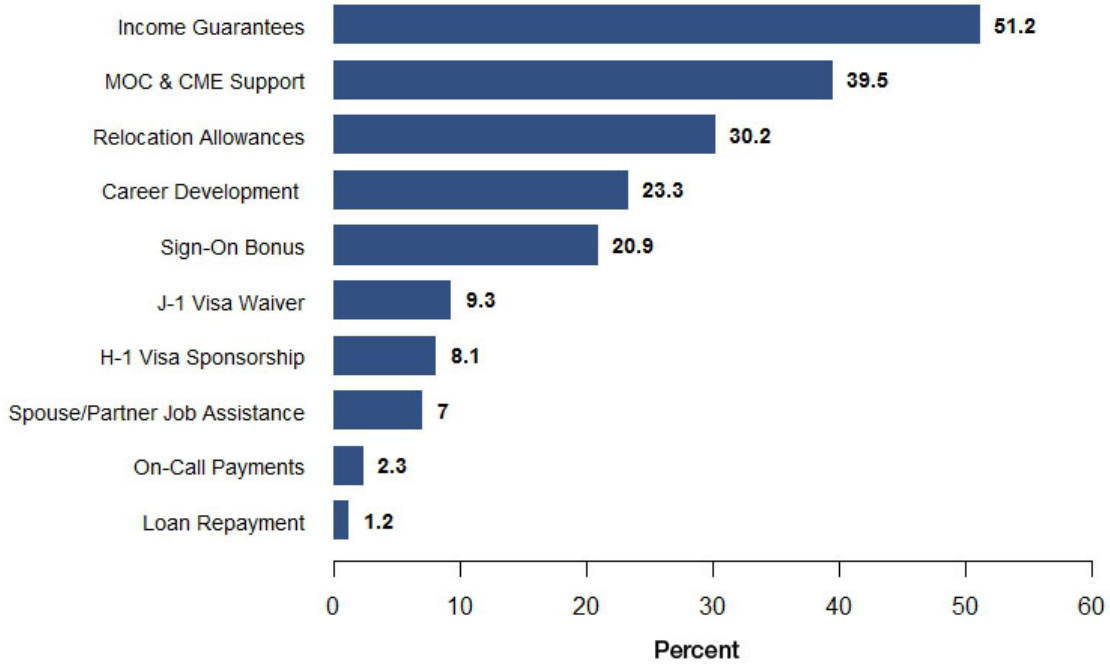
- Income guarantees (51.2%)
- Support for MOC and CME (39.5%)
- Relocation allowances (30.2%)
- Career development opportunities (23.3%)
- Sign-on bonus (20.9%)

On-call payments (2.3%) and educational loan repayment (1.2%) were the least frequently reported incentives. Another 16.3% of respondents who had accepted jobs reported receiving no incentives.

We found statistically significant differences between IMG and USMG respondents' reports of receiving J-1 visa waivers ($p<0.01$) and support for MOC and CME ($p<0.05$). USMG respondents were more likely to report receiving this support than IMG respondents. We found no statistically significant differences between male and female respondents' reported incentives.

Among respondents who reported receiving incentives with their primary job offers, the majority (71.0%) reported that they were "important" or "very important" in their decision to accept the job. While we found no significant difference in IMGs' and USMGs' ratings of the importance of the incentives they had received ($p=0.66$), we found that female respondents were more likely than male respondents to rate their incentives as "important" or "very important" ($p<0.05$).

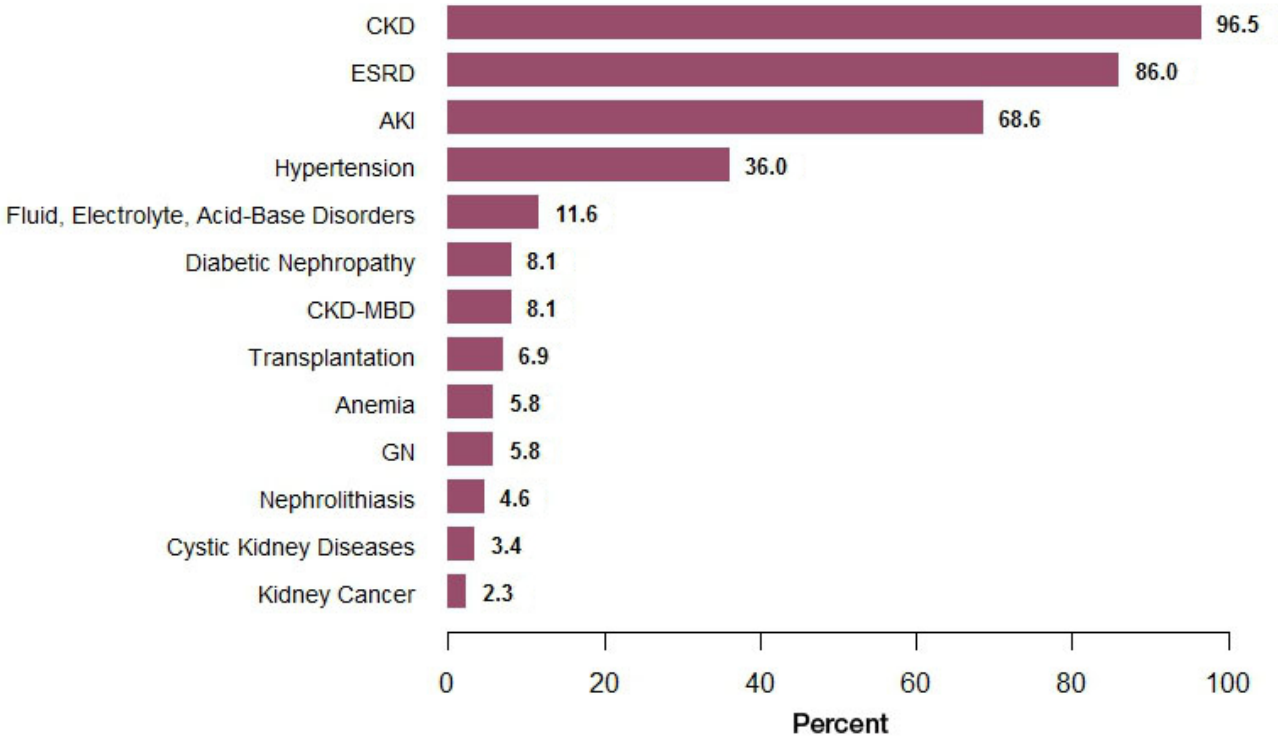
Exhibit 21. Incentives Received



Conditions Fellows Expect to Treat

When asked to identify the top 3 conditions they expected to treat in their practice (both primary and secondary jobs), respondents who had accepted job offers most frequently cited CKD (96.5%), ESRD (86.0%), AKI (68.6%), and hypertension (36.0%). The least frequently expected conditions were nephrolithiasis (4.7%), cystic kidney diseases (3.5%), and kidney cancer (2.3%).

Exhibit 22. Conditions Fellows Expect to Treat



Among dialysis modalities, respondents who had accepted job offers were most likely to expect to work with in-center hemodialysis (96.5%), followed by home peritoneal dialysis (70.6%), and home hemodialysis (43.5%). A much smaller group (11.8%) said they anticipated working with nocturnal in-center hemodialysis.

Would Fellows Recommend Nephrology?

Despite their relatively dim assessments of the nephrology job market, a majority (71.8%) of fellows indicated they would recommend nephrology to current medical students and residents. However, IMGs were significantly less likely than USMGs to report that they would recommend the specialty to others (67.7% vs. 79.0%, respectively, $p<0.05$). We found no statistically significant difference between male and female fellows' likelihood of recommending nephrology ($p=0.96$).

Exhibit 23. Would Recommend Nephrology to Medical Students & Residents

	2014	2015
USMGs	82.2%	79.0%
IMGs	65.7%	67.7%
Total	72.0%	71.8%

Fellows who said they would recommend nephrology to medical students and residents cited the intellectual challenge/interest of the field, variety of activities (research, procedures, inpatient and outpatient care), and patient relationships as reasons for their positive assessments. They also noted that increasing demand for kidney care in the future was likely to increase nephrology job opportunities in the future, especially as some older nephrologists began to retire.

Fellows who said they would recommend nephrology to medical students and residents made the following comments to support their assessments:

- "I think that nephrology appeals to physicians because of the systematic nature of the discipline, the importance of its function to overall health and the ability we have to intervene positively in patients' lives from dialysis, to transplantation to management of acid-base problems. It's intellectually stimulating and rewarding as a career."

- "Nephrology remains a big passion of mine, and I'd recommend that students and residents consider it. I've warned many a time about the struggles in the specialty when it comes to payments, jobs, etc. But what I enjoy about the field are two things. First, there's a big room for innovation and discoveries in nephrology. The kidney is a fascinating organ with complex biology, and we still have a lot to learn about it. The anticipation of the next big thing in nephrology is really exciting; and we've had a few over the past few years. Second, a nephrologist has the opportunity to develop a strong relationship with his patients. Out of all the medical sub-specialties, we get to follow patients longitudinally for years. We get to rejoice with them about a transplant, and support them through dialysis. That level of human interaction is really special."

- "Nephrology is a field which you can develop a long-term relationship with patients, actively apply the pathophysiology learned in medical school, and maintain the broad medical knowledge gained in residency. Nephrology offers a nice balance of procedures (lines, biopsies, dialysis) with clinical work. With the expanding impact of hypertension and diabetes seen in this country, the need for nephrologists will soon follow."

- "It's the best subspecialty! Nothing is more interesting than the kidney, and you get to have long term, close contact with your patients. Call is from home and at a smaller center, not too arduous. Weekends involve coming in, rounding, and going home within a few hours, usually. Rarely do I have to come in at night. Also, your input is very respected and appreciated, as most generalists are very intimidated by the kidney. Nephrologists are also a great group of smart, dedicated, caring people."

- "I do my best to showcase nephrology to med students and residents at all times. The work environment is diverse: Outpatient hypertension, transplant, and CKD clinics; inpatient ESRD, transplant, and consult services; outpatient dialysis units; and wet bench work space if in basic science research…if working on bioinformatics, epidemiology or other clinical research. The opportunities for research are vast: genetic connections to a wide vary of glomerular and tubolointerstitial diseases have resulted in the past 15-20 years which can be applied to exploration of mechanism and targeted treatments; more work needs to be done to better characterize the mechanisms mediating electrolyte and acid-base balance. You will never get bored with renal physiology. Imagine the plateau effect that occurs with mastery of some subjects: You finally understand it and you stop

trying to learn. Electrolyte and acid-base balance is so complex that even seasoned nephrologists sometimes get stumped trying to explain what is going on. You will always know just enough, but not everything and this inability to complete master renal physiology will keep your interest as new theories and mechanisms are introduced with some of the fascinating research going on."

- "It's a very complete specialty, because you have work with outpatients and inpatients, and you choose the level of involvement, with a lot of clinical work, and also epidemiology, basic research and training. Sure, it is a very demanding specialty, with a lot of responsibility, there is a lot to study and patients are always complex, it requires a lot of your personal time and commitment. But it is also one of the most rewarding, with the results of the patients, the work and the compensation. Within nephrology, areas of interest are varied, such as transplant care, glomerular disease, acute and chronic kidney disease, renal replacement therapy, novel technologies, etc. Quality of life for patients has changed a lot in comparison to other areas of medicine (such as neurology or oncology) with transplants, dialysis and therapies for immune diseases. There are a lot of patients and very few of us, so there will always be work to do, and as population ages, so does the kidneys. Bottom line, one of the best specialties, if not the better."

Fellows who said they would not recommend nephrology to medical students and residents cited the heavy workload, low compensation, difficult schedule relative to hospital medicine and other specialties, undervaluing of the specialty by other specialties, and the loss of procedures to other specialties as reasons for their negative assessments. IMG fellows also noted a lack of opportunities that support visas as a particular challenge, noting that many jobs that offered visas were located in undesirable areas.

Fellows who said they would not recommend nephrology to medical students and residents made the following comments to support their assessments:

- "Material is wonderful, and for that, I would [recommend nephrology to others]. But the practice structures are such that, while other general and subspecialty areas of medicine have explored ways to better balance work-life and compensate, nephrology is slower (20-30 years behind, in some ways). What's more, in senior leadership, there persists the opinion—at least in academia—that requests to modernize the practice of nephrology are mere complaints from upcoming underachievers. The conversation must change if we are to attract more talent to nephrology."
- "What drew me to nephrology were the role models I knew when attending medical school and residency. Nephrologists truly were the smartest people in the hospital. Now I just feel like a steward of dialysis, and I have to be very obliging to primary services like Cardiology, Surgery and CT Surgery who demand dialysis regardless of our clinical opinion. The real interesting stuff like GN and electrolyte physiology are being managed by rheumatologists and intensivist. We seem to be managing a lot of CKD, and other than ACEIARB, we really have nothing to offer our patients."
- "No job security. Even if you get a job, compensation is lower than internal medicine so why to waste 2 year of training? Tricky contract from private practice and partnership track is not clear. Lots of practicing nephrologist are not satisfied even after at least 2-3 year of practice. I think main reason for nephrology not being lucrative field financially is because unequal distribution of income. Senior most person gets 1.5 to 2 times of money as compared to most junior one. This is not the case in other sub-specialties where difference may be 20-30%, but not 100%."
- "From an academic and educational perspective, nephrology is great. However, from a financial and lifestyle perspective, it makes zero sense to do, especially if one wants to live in a state like California. The opportunity cost is huge and job prospects do not really improve. I eventually accepted a very nice hospitalist position in the heart of San Diego that pays more than any starting nephrology salary that I was offered, provides a predictable schedule with over 200 days off per year, and resident coverage. Most nephrology jobs available in CA were either in the middle of nowhere and/or had q3 call, bad schedules, questionable (or long) partnership tracks…Three members of my 12 person hospitalist group are nephrologists (the other two quit nephrology private practice to do this). Of our 6 graduating fellows this year, only 2 have secured full time nephrology positions—one in pediatric nephrology in CA and one out of state (both at salaries lower than what my hospitalist position pays). And, nearly all of us are US medical school graduates coming from major University residency programs (only 1 has visa issues). So, even though I enjoy and would like to do nephrology the combination of a worse schedule, lower compensation, and mainly the lack of job choice in desirable areas, makes it a very difficult sell. For that reason, I can't recommend it."

- "Nothing is being done about the low nephrology compensation relative to the workload and complexity in the specialty. Because of this, nephrology as a specialty is too poor to hire advanced practitioners like NP/PAs like other specialties do for more fulfilling work. Jobs are much less frequent to come by and many practices have still not lifted the hiring freeze. Salary rise is below inflation rate and at the bottom of all medical specialties. I don't feel valued in this specialty and people in leadership are too busy to value new hires and find ways to raise salary. I would have been happy in other specialties like cardiology or hem-onc which I was fully capable to getting into top programs. At least those specialties have a decent salary guarantee after graduation."

- "Nephrology lives in the dark ages: like internal medicine 30 years ago, little support for work life balance. Internal medicine transitioned to shift work in the 1980s to 1990s to address this very issue and it's a future direction our subspecialty must take, but the current generation of leaders seem to be dragging their feet to appreciate this and make meaningful changes in order to generate quality interest in nephrology."

- "I would only recommend nephrology to people who are very interested in this field or have a green card/ American citizenship. I still believe we have the most interesting specialty. However, nephrologists work long hours with salaries lower than in other subspecialties (or even than internal medicine when adjusted for workload). Also, finding academic positions that sponsors visas is exceedingly difficult so, if they are foreign and interested in academics, maybe think of another subspecialty. Private practice will make you work 3-5 different locations and then again, if you are on a visa: you won't find an offer anywhere near a larger city with an airport (good luck ever travelling to see your family)."

- "I would only recommend it if they were very passionate about kidney disease. With a limited job market and starting nephrology pay below that of hospitalists (who work much less throughout the year), it is difficult to ask US graduates who have mounting educational debts (and whose debts increase throughout training due to interest accrual since fellowship deferment was removed) to work in a field with limited starting income potential."

- "Poor return on investment. Expectations for knowledge and care are high, but reimbursement is low. Nephrologists are doing more work just in order to keep compensation steady. Under-appreciated by both the medical community and society at large. No other group that performs life-sustaining therapies are so poorly treated and poorly compensated."

- "Well, I would be very clear with the students and residents that they would have to be okay with being on home call where they might have to be called into the hospital if they wanted to go into private practice. I didn't consider the impact of this when I was choosing a career and now I am a young mother who does not want to have to leave her young children…in the middle of the night, so my choices for practice opportunities are very limited (basically I can only work at an academic center where there are fellows). Looking back, I would have picked a different specialty where home call would not result in needing to leave the house at night."

ASN LEADING THE FIGHT AGAINST KIDNEY DISEASE