ASN Pediatric Nephrology Fellows Survey Responses—Brief Analysis

Prepared for the American Society of Pediatric Nephrology (ASPN) Workforce Committee, September 1, 2016

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Notes and Disclaimer

GWU's IRB granted the nephrology workforce research—including the ASN Nephrology Fellows Survey—an exemption (GWU IRB #051430). The IRB required respondents be able to skip questions they may not want to answer. Therefore, not every respondent replied to all questions, which is reflected in the raw counts presented.

Although responses to the 2016 Nephrology Fellows Survey are included, the GWU investigators had not completed their analysis of the full cohort at the time of this report. Thus, comparisons between pediatric and adult respondents are based on 2014 and 2015 survey results (available at www.asn-online.org/workforce).

This brief analysis examines data captured by GWU, and follows a similar structure to their previous reports to facilitate quick comparison. However, the content and conclusions are Kurtis Pivert's alone, and he is solely responsible for any errors or omissions.

American Society of Nephrology Workforce Research Initiative

This brief analysis summarizes responses of pediatric nephrology fellows to the American Society of Nephrology (ASN) Fellows surveys conducted in 2014, 2015, and 2016.

Background

Over the past several years declining numbers of internal medicine (IM) residents have chosen to train in nephrology. To help address this declining interest, ASN has made significant investments of resources and staff to stimulate interest in nephrology among IM residents, medical students, and other trainees (www.asn-online.org/workforce).

In February 2014, ASN Council initiated a comprehensive analysis of the current nephrology workforce. Previous workforce studies were limited in scope and a global overview of the state of kidney health professionals had not been conducted since 1997, when the results raised concerns about training an adequate future workforce (Neilsen EG, et al. *J Am Soc Neph* 1997;8:S1-S4).

To conduct the analysis, ASN collaborated with the George Washington University (GWU) Health Workforce Institute, led by Edward Salsberg, MPA (https://nursing.gwu.edu/ed-salsberg). In addition to analyzing the current supply of adult nephrologists, GWU examined future supply and demand trends for kidney health professionals.

As a complement to the ongoing nephrology workforce analyses, ASN launched an annual Nephrology Fellows Survey in 2014. This survey captures key evidence on the current job market and demand for kidney health specialists. The survey tool—adapted from the University at Albany Center for Health Workforce Studies (CHWS) annual NY State Resident Exit Survey—is distributed to all ASN nephrology fellow and trainee members who receive free ASN membership, including pediatric nephrology fellows.

GWU has limited the scope of its research to adult nephrology. Thus, previous reports have focused solely on adult nephrology fellow respondents (available at www.asn-online.org/workforce).

Executive Summary

Both the number, and percentage, of pediatric nephrology fellows responding to the annual Nephrology Fellows Survey have been slightly lower than that of adult fellows. In 2014, 27% of all pediatric nephrology fellows responded (based on most recently available data [AY 2014–2015] from the Accreditation Council for Graduate Medical Education ([ACGME]).

The small sample size most likely precludes the responses being completely representative of the total pediatric nephrology fellow population. Pediatric respondent demographics—mainly female, white, and nearly evenly split between USMGs and IMGs—generally mirrored ACGME data, though not as closely as that for adult fellows.

Like their adult counterparts, most USMG pediatric respondents reported substantial debt (median debt range $75,000 and $249,999), while most IMGs had none (median debt $0).

A majority of pediatric respondents indicated they were entering clinical practice after completing their training. Location and practice setting were the most important factors influencing job selection.

A majority reported having to change plans due to limited practice opportunities, and perceived few jobs in the local market.

Starting salaries upon graduation for pediatric fellows were lower than that of adults, ranging between <$100,000 to $224,999, with most jobs located in academic centers in urban areas. Unlike adult fellows, pediatric respondents were less likely to rate financial and other incentives as important to accepting the position.

Despite negative perceptions of the job market, a majority of pediatric respondents would recommend pediatric nephrology to students, at a higher rate than adult fellows.

Pediatric Fellow Respondents—Demographics

An overview of pediatric fellow survey respondents is provided in Table 1. Based on the most recently available data (AY 2014–2015) from the Accreditation Council for Graduate Medical Education (ACGME) 27% of all pediatric nephrology fellows responded to the survey in 2014. This is slightly lower than the overall response rates (28.8% [2014] and 36.3% [2015]) and those of adult fellows who have completed their ACGME-accredited (PGY-4 and PGY-5) training (35.8% [2014] and 40.3% [2015]).

Demographics of the pediatric cohorts did not closely mirror those of the overall population of pediatric nephrology fellows reported by ACGME (Table 2), most likely due to the smaller sample size.

Respondents were nearly evenly split between United States medical graduates (USMGs) and international medical graduates (IMGs), reflecting the closer balance among pediatric fellows than adult fellows. Since 2007, IMGs have accounted for the majority of adult trainees (Table 3).

The majority of pediatric respondents were U.S. citizens, yet percentages were higher than those of adult nephrologists. Similarly, there were slightly fewer pediatric respondents indicating they were permanent residents or H-1 visa holders (Table 4).

There were more female pediatric respondents than adults (Figure 1), and IMGs tended to be older overall (Figure 2). Yet the age distributions were similar to that of adult fellows (who have 1 less year of ACGME-accredited training).

The race of pediatric respondents was a mirror image of adult nephrology trainees (with a majority indicating they were white followed by Asian) (Figure 3). After 2014, there were markedly fewer Hispanic/Latino fellows (Table 5), although the smaller sample size may account for this discrepancy.

Table 1. Pediatric Nephrology Fellow Survey Respondents by Fellowship Year

	2014	2015	2016
1st Year	4	3	3
2nd Year	14	14	8
3rd Year	13	13	8
4th Year or More	0	2	0

Table 2. Comparison of 1st, 2nd, & 3rd Year Pediatric Nephrology Fellow Respondents with ACGME Data

	2014	2015	2016	ACGME (2014)
Percent Male	40.6	30.0	21.1	35
Percent IMG	51.6	51.7	47.4	45
Percent African American	6.5	3.0	0	6.3
Percent Hispanic/Latino	16.1	3.0	5.3	9

Table 3. Pediatric Nephrology Fellow Survey Respondents Educational Status

	2014	2015	2016
USMG	48.4%	48.4%	52.6%
IMG	51.6%	51.6%	47.4%

Table 4. Pediatric Nephrology Fellow Survey Respondents Citizenship Status

	2014	2015	2016
Native Born U.S. Citizen	41.9%	51.7%	52.4%
Naturalized U.S. Citizen	19.4%	24.1%	19.0%
Permanent Resident	3.2%	3.5%	0%
H-1, H-2, or H-3 visa (temporary worker)	9.7%	10.3%	0%
J-1 or J-2 visa (exchange visitor)	29.0%	10.3%	19.0%

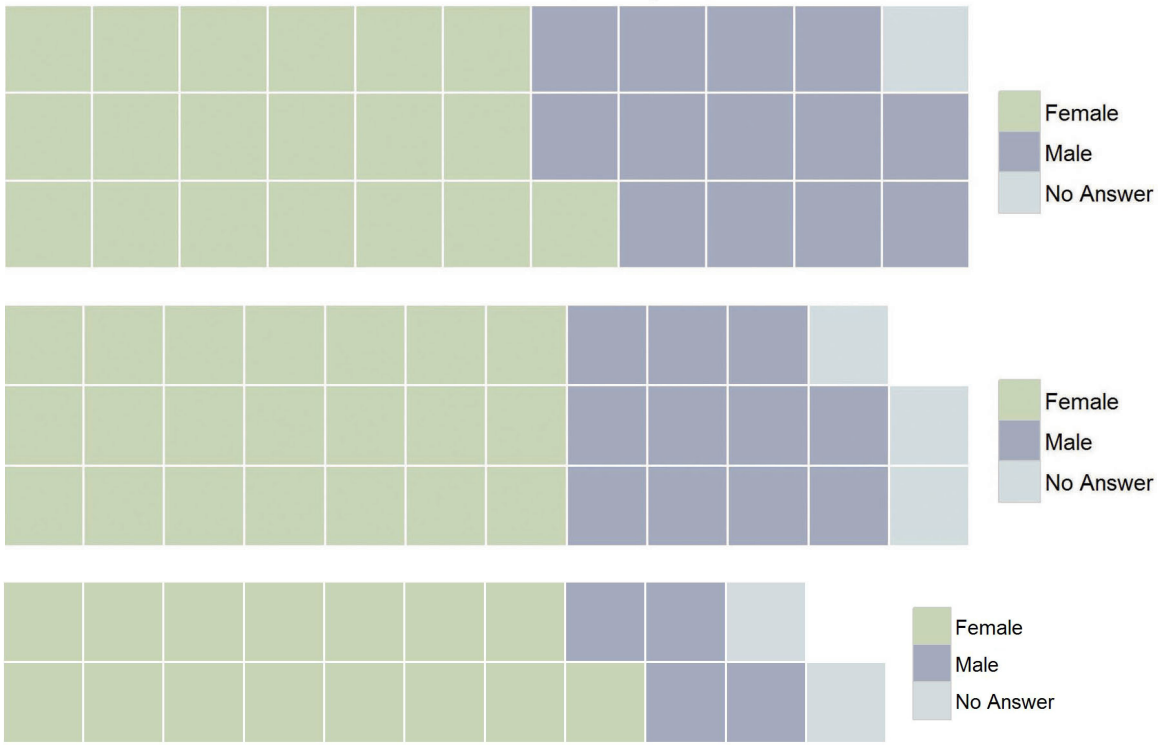

Figure 1. Sex of pediatric nephrology fellow respondents in 2014 (top), 2015 (middle), and 2016 (bottom). One square = one fellow respondent.

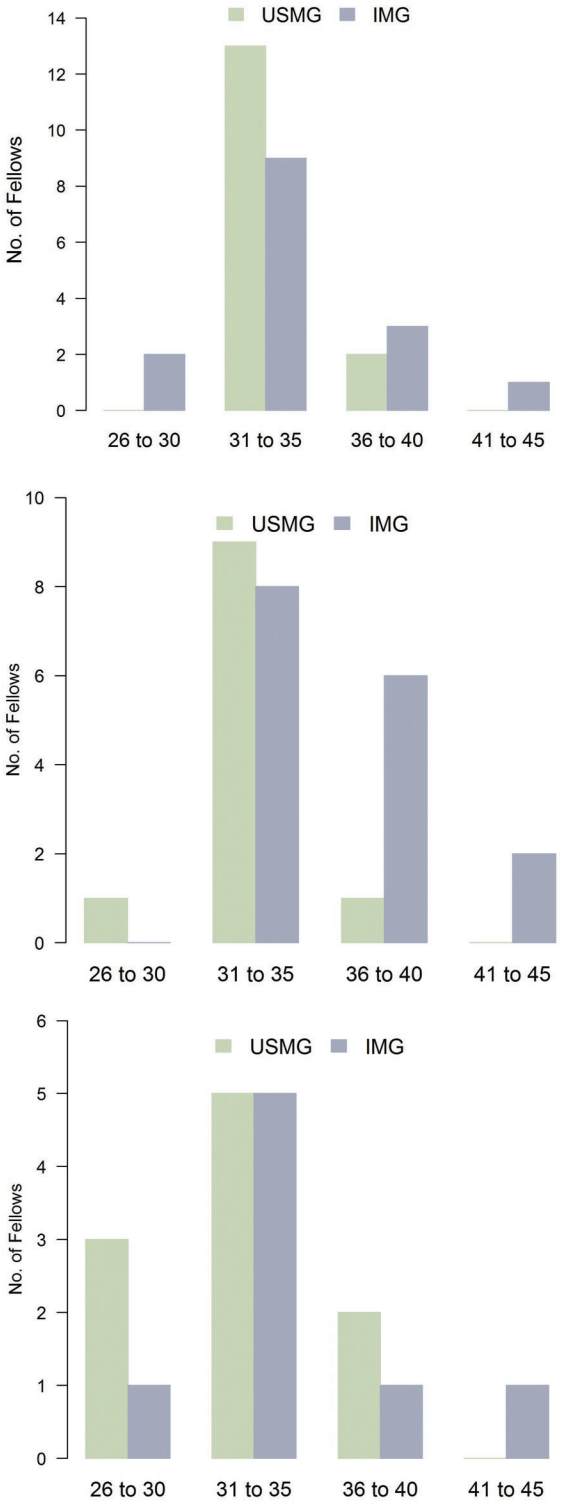

Figure 2. Age distribution of pediatric nephrology fellow respondents in 2014 (top), 2015 (middle), and 2016 (bottom). One 2016 outlier (56-year-old respondent in 2016) not pictured.

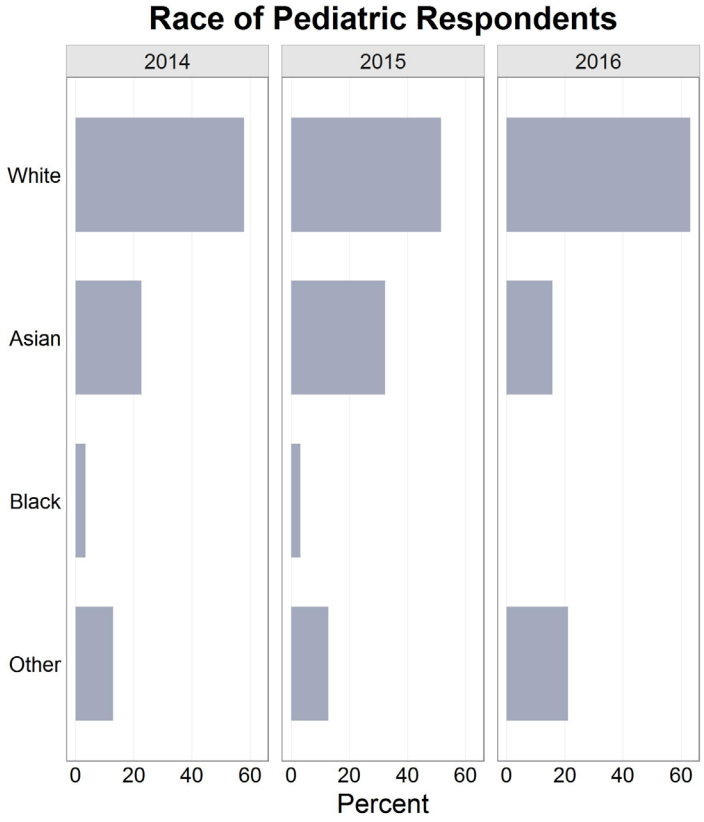

Figure 3. Race of pediatric nephrology fellow respondents by percent.

Table 5. Ethnicity of Pediatric Nephrology Fellow Respondents*

Are you Hispanic/Latino?	2014	2015	2016
Yes	5	1	1
No	26	30	18

*Survey follows U.S. Census Bureau definitions of race and ethnicity.

Pediatric Fellow Respondents—Debt and HPSA Obligation

Like adult fellows, a majority of IMG pediatric respondents reported having no educational debt. Debt among pediatric USMGs was similar, although slightly lower, than that of adults. Median debt ranged between $75,000 and $249,999 for USMG pediatric respondents and was $0 for IMG respondents. Although no USMGs indicated having an obligation to practice in a Health Professional Shortage Area (HPSA), the rate among IMGs was similar to the adult respondents.

Table 6. Obligation to Work in HPSA

	2014		2015		2016	
	USMG	IMG	USMG	IMG	USMG	IMG
Yes	0	1	0	4	0	2
No	3	5	15	12	10	7

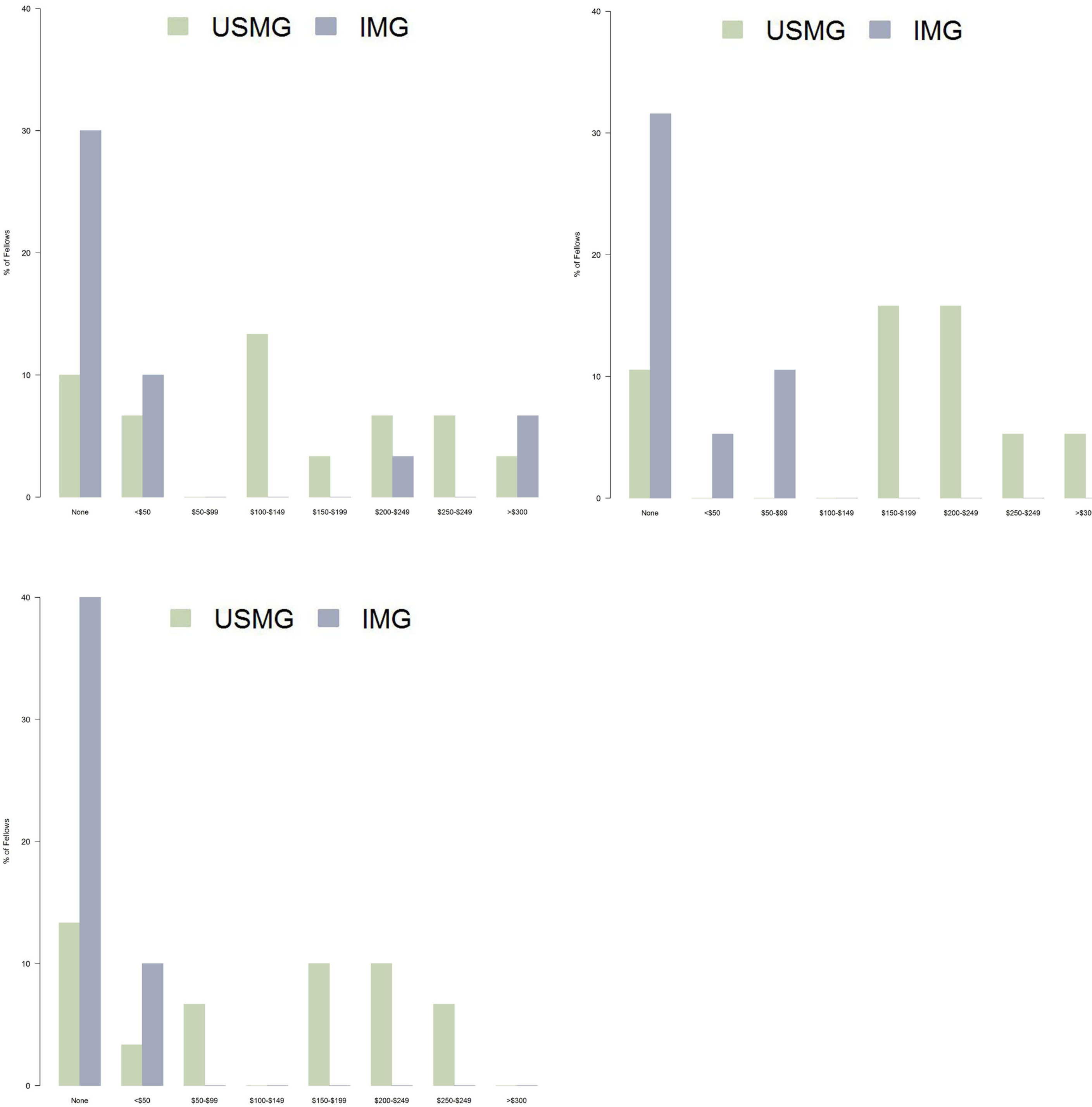

Figure 4. Educational debt of pediatric nephrology fellow respondents in 2014 (top), 2015 (bottom), and 2016 (upper right).

Pediatric Fellow Respondents—Posttraining Plans

Excepting the 2014 respondents, the majority of pediatric nephrology fellows planned on entering clinical practice at the conclusion of the current academic year, much like their adult counterparts (this discrepancy may be due to how the question was worded in the 2014 survey). However, substantially more pediatric fellows indicating continuing their current fellowship, most likely due to the 3-year accredited program length.

Table 7. Activity After Completion of Current Training Program

What do you expect to be doing at the end of the training year?	2014	2015	2016
Continue Current Fellowship	NA	12	7
Additional Subspecialty Training or Fellowship	1	1	1
Clinical Practice	8	13	8
Teaching/Research (in non-training position)	15	2	0
Undecided/Don't Know Yet	3	1	0
Other	2	0	0
Hospitalist	1	NA	NA

Pediatric Fellow Respondents—Factors Influencing Job Selection

Desired location was consistently rated the most important influencing factor when selecting a job among pediatric respondents across all survey years (Figure 5). This was followed closely by desired practice setting. Most adult respondents also rated both these factors as Important or Very Important, but weekend duties, overnight call, and compensation were rated higher than pediatric respondents overall.

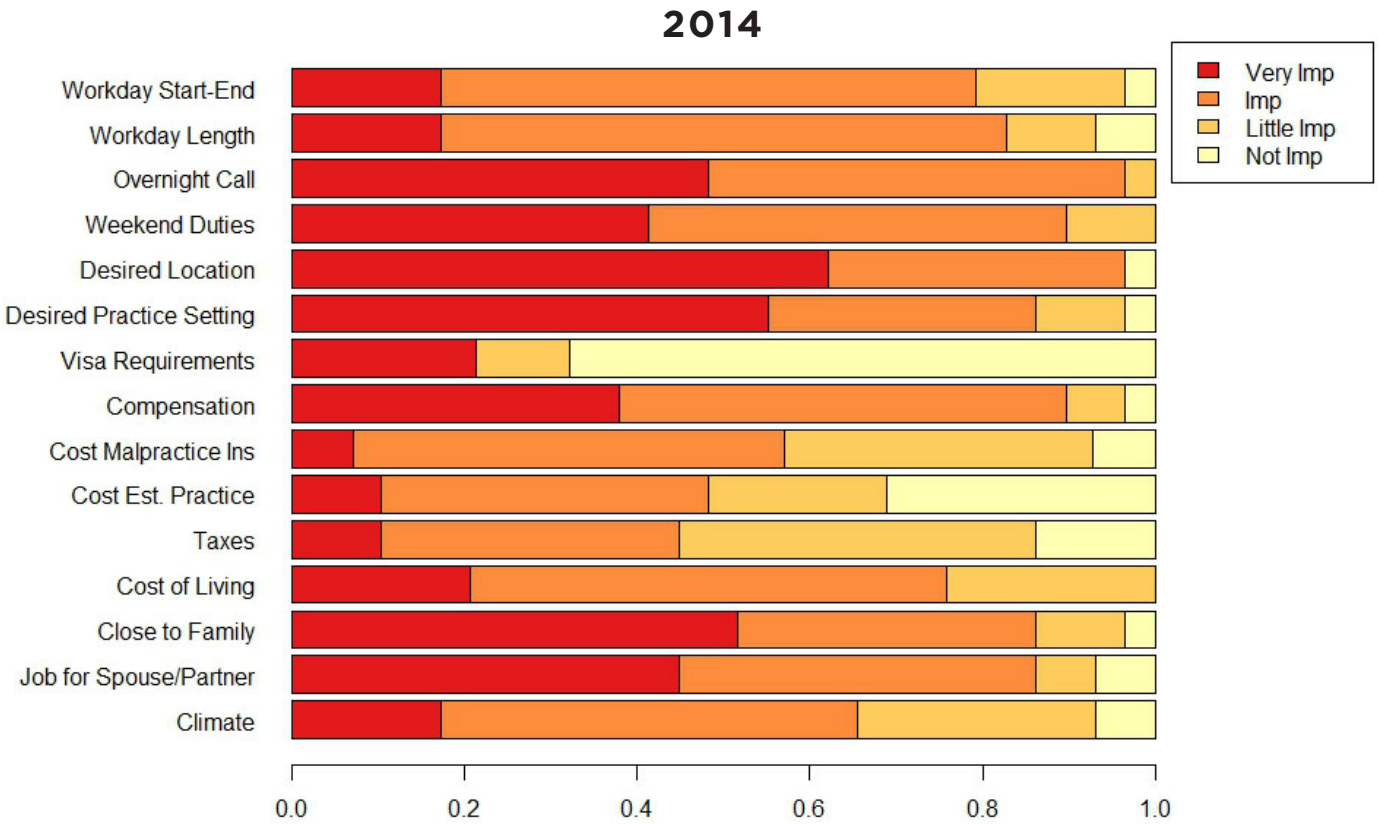

Figure 5. Factors influencing pediatric nephrology fellows' job selection for respondents in 2014. Imp = Important; N/A = not applicable.

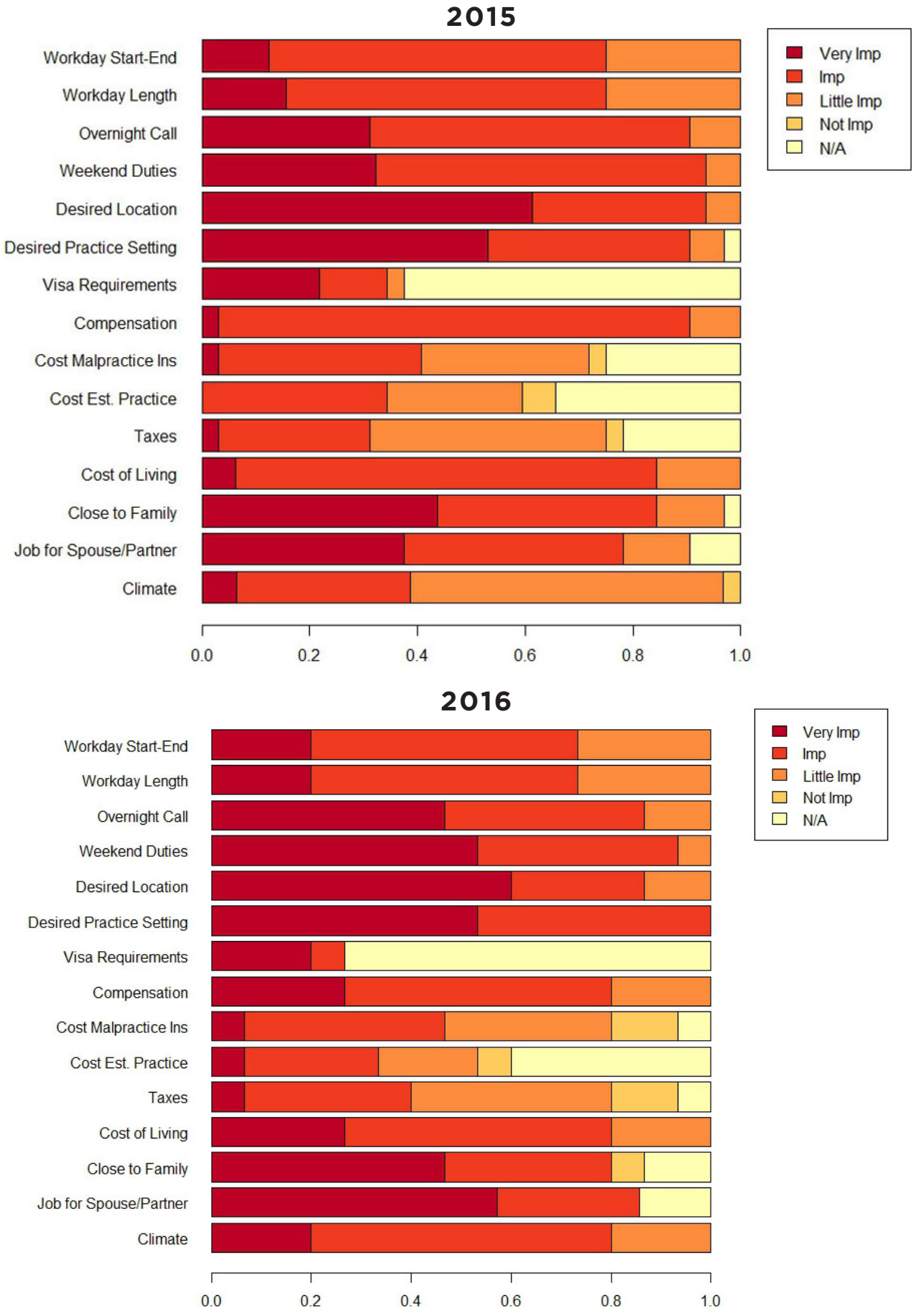

Figure 5 (cont). Factors influencing pediatric nephrology fellows' job selection for respondents in 2015 (top), and 2016 (bottom). Imp = Important; N/A = not applicable.

Pediatric Fellow Respondents—Job Market Experiences and Perceptions

Number of Job Applications and Job Offers

Most pediatric fellows reported applying for between 1 and 5 jobs, although several 2015 respondents indicated submitting between 6 and 10 or more applications. The median number of job offers varied little between survey years 2014 (median 2, range 1–10), 2015 (median 1, range 0–3), and 2016 (median 1, range 0–5). Across survey years 14%–25% of respondents received no job offers, substantially more than adult respondents.

Difficulty Finding a Satisfactory Position

No pediatric fellow respondents reported difficulty finding a position they considered satisfactory in 2014, although this increased in 2015 and 2016 (Table 8). This could be due, in part, to the increased number of job applications among 2015 and 2016 respondents. More USMGs reported difficulty in 2015 than their adult counterparts (57% vs. 43%, respectively). Main reasons included a lack of jobs in desired practice locations and setting (the most important factors influencing job selection), and lack of jobs meeting visa requirements.

Table 8. Pediatric Fellows Having Difficulty Finding a Satisfactory Position*

	2014	2015	2016
USMG	0%	57%	20%
IMG	0%	60%	50%

*For 3rd-year fellows and beyond.

Changing Plans due to Limited Practice Opportunities

A majority of pediatric respondents in 2014 (57%) and 2015 (55%) indicated having to change their plans, a substantially higher rate than adult respondents (43% for both 2014 and 2015). This decreased to 11% in 2016, but this may be attributable to the poor response rate.

Job Market Perceptions

Regardless of educational status, pediatric fellows viewed the local job market pessimistically, and the national job market less so (Table 9). Substantially more USMG pediatric fellows had a dim view of local employment opportunities than USMG adult fellows (50.1% [2014] and 46.9% [2015]).

Table 9. Pediatric Nephrology Fellows Responding "No Jobs" or "Very Few Jobs"

	USMG			IMG		
	2014	2015	2016	2014	2015	2016
Local	78.6%	60%	66.7%	53.3%	56.3%	14.3%
National	7.1%	13.3%	11.1%	20%	18.8%	0%

Pediatric Fellow Respondents—Job Offer Characteristics

Practice Setting and Location

A limited number of 3rd-year pediatric nephrology fellows provided information on their future employment setting, anticipated salary, and incentive income. Of those responding, a majority were employed in an academic practice setting in an urban area, while only 3 respondents indicated taking jobs in a HPSA (Tables 10–12).

Base Salary and Incentives

A limited number of 3rd-year pediatric nephrology fellows provided information on anticipated salary and incentive income. 2014 respondents reported salaries ranging from $100,000 to $224,999 in inner city locations, and between $125,000 and $174,999 in other areas within a major city. Only 2 fellows reporting receiving incentive income of $10,000–$14,999 and $50,000–$54,999.

Salary ranges reported in 2015 were slightly lower. Inner city compensation ranged between <$100,000 to $174,999, with the majority of physicians in other demographic areas reporting starting salaries ranging between $125,000 and $149,999. Three fellows received incentive income between <$5,000 and $9,999.

The 4 respondents in 2016 indicated starting salaries between $100,000 and $174,999, with 2 fellows receiving incentive income of $5,000–$9,999 and $25,000–$29,999.

Overall, anticipated median salaries among pediatric nephrology fellows are lower than their adult counterparts, whose median base salary has ranged between $150,000 and $199,999 (in 2016 there were several outliers reporting salaries <$100,000–$124,999.

Satisfaction with Salary/Compensation

A majority of respondents in each survey year indicated they were Somewhat Satisfied or Very Satisfied with their compensation, although 4 respondents in 2015 who were Somewhat Dissatisfied.

Incentives

Career development opportunities were the most commonly reported incentives among pediatric fel-

Table 10. Setting of Primary Pediatric Nephrology Job*

	2014	2015	2016
Group Practice (exclusively nephrology)	0	0	1
Academic Practice (exclusively nephrology)	0	5	2
Academic Practice (multispecialty)	2	3	1
Hospital	1	1	1
Other	1	0	0

*For 3rd-year fellows and beyond.

Table 11. Location of Primary Pediatric Nephrology Job

	2014	2015	2016
Inner City	2	2	1
Other Area within Major City	2	4	2
Suburban	0	1	0
Small City (population <50,000)	0	2	2
Rural	0	0	0

*For 3rd-year fellows and beyond.

Table 12. Location of Primary Pediatric Nephrology Job (HPSA)*

	2014	2015	2016
Yes	0	2	1
No	4	4	3
Don't Know	0	3	1

*For 3rd-year fellows and beyond.

lows (Figure 6). Respondents were divided on the importance of incentives when assessing a job offer: across all survey years 50% of respondents indicated they were of little importance whereas 44% said they were important. This sharply contrasts with the majority of adult fellows (71% in 2015) who indicated incentives were important or very important in weighing offers of employment.

Figure 6. Incentives received by pediatric nephrology fellows in 2014, 2015, and 2016.

Would Pediatric Fellows Recommend Nephrology?

Although many pediatric fellows reported difficulty with finding a position they were satisfied with, had to change their plans, and had a dim view of local employment opportunities, a majority would recommend pediatric nephrology, at rates higher than their adult counterparts. Of note, IMG respondents recommended the specialty at a higher rate than their USMG colleagues, a contrast from adult fellows.

Table 13. Would Recommend Pediatric Nephrology to Medical Students and Residents

	2014	2015	2016
USMG	78.6%	73.3%	88.9%
IMG	93.3%	75%	71.4%
Total	86.2%	75%	81.3%

Recommend Pediatric Nephrology

"It's fascinating. It's the best job."

"With caveats: - it is not as well paid as other specialties - because of the rarity of patients the jobs may not be available where you want to work which may be difficult if you have ties to family or to a spouse"

"yes because we take care of acute and chronic patients and variety of problems like electrolytes abnormalities, hypertension, renal failure, kidney biopsies, Glomerulonephritis, bone disease etc. Also we can offer hope with a kidney transplant."

"It is a soft but very knowledge based specialty."

"Because being a pediatric nephrologist is vastly superior to any other subspecialty."

Not Recommend Pediatric Nephrology

"After the training, finding job is difficult, and your practice setting is tough. You cannot find the right combination easily. It will be easier to make living from hospitalist."

"Little compensation for the time/energy required to do work. Would recommend it if they were excited about nephrology and not concerned about compensation, and were willing to move to anywhere that had jobs (most markets are saturated despite advertised national shortage of pediatric nephrologists)"

"The amount of hours working far outweighs compensation. Very hard to maintain a life/family outside of work"
"It required a lot of investment of ones time and the financial outcome is so poor. Not worth the time and effort from a financial point . Work more , take more on calls and get paid less , why would anyone want to do that ?"

"The amount of training and demands of the job are not compensated well for with salary. More can be made with general pediatrics."

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"The amount of training and demands of the job are not compensated well for with salary. More can be made with general pediatrics."

Conclusions

Limitations and Data Gaps

Pediatric nephrology fellow responses to the ASN Nephrology Fellow Survey revealed several trends and contrasts, but also highlighted knowledge gaps about trainees in the subspecialty (particularly job market experiences and perceptions). The lower response rate—27% of pediatric and 37% of adult fellows responded in 2014—also limits any potential generalizability of the data. Broader survey participation among both adult and pediatric fellows is needed to capture more representative demand indicators and data on the current job market.

Because the Survey was designed/adapted by GWU for adult fellows, the lack of more applicable/representative questions and response options for the pediatric trainee population may further limit the Survey's potential for the pediatric training population.

Related Initiatives

Beyond the annual Survey and other research activities, ASN is developing a GME Database to capture current data on both adult and pediatric nephrology training programs. This will provide the community with real-time information on the nephrology training enterprise during a time when programs begin assessing "right-sizing" and accommodating a potentially shrinking pipeline of candidates.

In addition to the ongoing nephrology workforce research, ASN has implemented an array of workforce and training efforts, available at http://www.asn-online.org/workforce.

Request for Input

To address these knowledge gaps and limitations, I would welcome input from the ASPN Workforce Committee and pediatric nephrology community on:

- Future survey/question design to capture representative data from pediatric trainees
- Suggestions for alternative data sources on the pediatric nephrology workforce
- Knowledge gaps about the current and future pediatric nephrology workforce
- Potential collaborative projects that will inform the kidney community on workforce and utilization trends

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