



Collaborative Venture: ASN – ERA-EDTA – ISN Global Nephrology Workforce Survey

On behalf of the collaboration between the American Society of Nephrology (ASN), the European Renal Association–European Dialysis and Transplant Association (ERA-EDTA), and the International Society of Nephrology (ISN), thank you for participating in this important ASN – ERA-EDTA – ISN joint effort to determine *what a nephrologist is* across the world.

Results of the *Comparing Realities Across the Global Nephrology Workforce Survey* will offer kidney health professionals a better understanding of our specialty and ensure future communications about the nephrology workforce are consistent across countries and regions.

IMPORTANT: Please read the following background information and Survey Instructions carefully before beginning the survey.

Research Background

Over the past 5 decades, nephrology has established itself as a vital subspecialty within internal medicine. Yet the roles and responsibility of nephrologists have changed as the discipline has evolved. The definition of a nephrologist and how they are trained also varies across the world, given each country's differing health care systems, resources, and medical education programs.

The specialty currently faces several regional challenges. In many high-income countries, a declining number of medical students and residents are choosing to specialize in nephrology, raising questions about the adequacy of the workforce to meet future patient demand. Low- and middle-income nations may lack the resources to provide nephrology specialty training despite an often strong demand for specialized kidney care.

Research Areas

Together, we want to accurately describe the kidney health workforce at the country- and region-specific level in terms of nephrologists' training, certification, and scope of practice; number of nephrologists per country; and the range of kidney care provided by other physicians and non-physicians.

Survey Instructions

- The survey contains 33 questions addressing the research areas outlined above.
- It should take approximately 30 minutes to complete the survey.
- This survey can be completed in more than one session. Your responses will be saved and you can edit them any time before the survey closes.
- You may not know the answer to all the survey questions. We encourage you to share the PDF version of the survey (available in English, French, and Spanish by clicking on the links) with relevant experts who can provide the required information.

You can complete this survey either

- 1) online by clicking "Next" below, or
- 2) using a PDF version of the survey (available in English, French, and Spanish by clicking on the links) and returning either via: EMAIL to kpivert@asn-online.org; FAX to +1 202.478.5078; or POST to American Society of Nephrology, Attention: ASN Data Science Officer Kurtis Pivert, 1510 H Street NW, Suite 800, Washington, DC 20005, USA.

If you have any questions about this survey or this collaboration between ASN, ERA-EDTA, and ISN, please contact ASN Data Science Officer Kurtis Pivert at kpivert@asn-online.org or +1 202.699.0238.

Thank you for your contributions to this important research.

Sincerely,

Raymond C. Harris, MD, FASN
Past President, ASN

Andrzej Więcek, MD, PhD
Past President, ERA-EDTA

Adeera Levin, MD, FRCPC
Past President, ISN

Respondent Information

1. Please enter the name of your country.

2. Please provide your name, title, email address, and the national organization you represent.

Name

Email Address

Organization

Organization Website (if applicable)

3. If any individuals other than yourself contributed to this survey, please list their name(s), email address(es), and affiliation(s).

Nephrologist Training—Adult

4. What is the minimum training (in YEARS) required for the ADULT nephrologist specialist designation?
Please select "NA" if not applicable.

Number of Years
(or NA if not applicable)

Medical School—Up to Award of Medical Qualification

General Medicine/Surgery Training—or Pipeline Specialty—Before Specialist Training (e.g., internal medicine residency)

Specialist Nephrology Training—Single Accreditation in Nephrology

Specialist Nephrology Training—Dual Accreditation (e.g., in nephrology and internal medicine)

Nephrologist Training

5. For *nephrologist specialist training only*, which individuals/entities fund nephrology training? (select all that apply)

- Trainee (Including Government and Other Loans and Completing Training as a Volunteer)
- Government/Department of Health
- Not-for-Profit Organisation(s)
- For-Profit Organisation(s)

Nephrologist Certification—Adult

6. Currently (as of 2017), what specialist certification is required to practice ADULT nephrology? (Select all that apply)

- Experience/feedback/appraisal with formal certification
- Written examination with formal certification
- Clinical examination with formal certification
- Experience/feedback/appraisal without formal certification
- None—i.e., you can be a nephrologist if you are medically trained and work in a renal unit
- Other (please specify)

7. Currently (as of 2017), how long will this ADULT nephrology specialist certification be valid for?

- Indefinite
- 5 years
- 10 years
- Other (please specify)

8. What activities are required to retain this ADULT nephrology specialist certification?

- Formal documentation of continuing medical education or self-assessment activities
- Written examination
- None
- Other (please specify)

9. Does your country offer PAEDIATRIC nephrology training?

- Yes—Please proceed to Question 10
- No—Please proceed to Question 15

Nephrologist Training—Paediatric

10. What is the minimum training (in YEARS) required for the PAEDIATRIC nephrologist specialist designation? Please select "NA" if not applicable.

Number of Years
(or NA if not applicable)

Medical School—Up to Award of Medical Qualification

General Medicine/Surgery Training—Including General Paediatrics—Before Specialist Training (e.g., paediatrics residency)

Specialist Nephrology Training—Single Accreditation in Nephrology

Specialist Nephrology Training—Dual Accreditation (e.g., in nephrology and paediatrics)

11. Does your country certify paediatric nephrologists?

- Yes—Please proceed to Question 12
- No—Please proceed to Question 15

12. Currently (as of 2017), what specialist certification is required to practice PAEDIATRIC nephrology? (Select all that apply)

- Experience/feedback/appraisal with formal certification
- Written examination with formal certification
- Clinical examination with formal certification
- Experience/feedback/appraisal without formal certification
- Other (please specify)

13. How long will this PAEDIATRIC nephrology specialist certification be valid for?

- Indefinite
- 5 years
- 10 years
- Other (please specify)

14. What activities are required to retain this PAEDIATRIC nephrology specialist certification?

- Formal documentation of continuing medical education or self-assessment activities
- Written examination
- None
- Other (please specify)

Nephrologist Demographics

15. The next several questions address demographics of nephrologists in your country. Do you have access to accurate data on the number of certified nephrologists in your country or are you providing a best estimate?

- Accurate Data—Please proceed to Question 16
- Best Estimate—Please proceed to Question 21

Nephrologist Demographics – Accurate Data

16. How many certified nephrologists are there in your country?

Adult Nephrologists

Paediatric Nephrologists

17. What is the percentage of female and male nephrologists (both adult and paediatric combined) in your country?

Female Nephrologist Percentage

Male Nephrologist Percentage

18. How many whole-time equivalent/full-time equivalent (WTE/FTE) certified nephrologists are there in your country? That is, how many WTE/FTE nephrologists are there in your country after accounting for:

- Part-time employment
- Clinical time spent in internal medicine or other specialities
- Time spent in research, administration, or teaching

Example: If a nephrologist works full-time (i.e., 5 days a week) but spends 1 day a week doing internal medicine and 1 day a week doing research they represent $(5 - 1 - 1) / 5 = 0.6$ WTE/FTE. This statistic will most likely be collected nationally. If other statistics are collected, please provide these in the “Other/Alternate” box and explain the difference.

Adult Nephrologists

Paediatric Nephrologists

Other/Alternate

19. Is the WTE/FTE nephrologist data provided based on an estimate?

- Yes
- No

Please specify:

20. Are there any financial incentives for a nephrologist to retire before the state pension age?

- Yes—Please proceed to Question 25
- No—Please proceed to Question 26

Nephrologist Demographics—Best Estimate

21. What is your best estimate of how many certified nephrologists are there in your country?

Adult Nephrologists

Paediatric Nephrologists

22. What is your best estimate of the percentage of female and male nephrologists (both adult and paediatric combined) there are in your country?

Percent of Female Nephrologists

Percent of Male Nephrologists

23. How many whole time equivalent/full-time equivalent (WTE/FTE) certified nephrologists do you estimate there are in your country? That is, your best estimate of how many WTE/FTE nephrologists are there in your country after accounting for:

- Part-time employment
- Clinical time spent in internal medicine or other specialities
- Time spent in research, administration, or teaching

Example: If a nephrologist works full-time (i.e., 5 days a week) but spends 1 day a week doing internal medicine and 1 day a week doing research they represent $(5 - 1 - 1) / 5 = 0.6$ WTE/FTE. This statistic will most likely be collected nationally. If other statistics are collected, please provide these in the "Other/Alternate" box and explain the difference.

Adult Nephrologists

Paediatric Nephrologists

Other/Alternate

24. Are there any financial incentives for a nephrologist to retire before the state pension age?

- Yes—Please proceed to Question 25
- No—Please proceed to Question 26

25. Please describe any financial incentives for a nephrologist to retire before the state pension age:

Scope of Nephrology Practice

26. Do nephrologists commonly undertake the following tasks?

	Yes	No
PRESCRIBE Haemodialysis for Acute Kidney Injury (AKI)	<input type="radio"/>	<input type="radio"/>
PERFORM Haemodialysis for Acute Kidney Injury (AKI)	<input type="radio"/>	<input type="radio"/>
PRESCRIBE Continuous Renal Replacement Therapy (CRRT) for AKI (Intensive Therapy Unit [ITU]/Intensive Care Unit [ICU])	<input type="radio"/>	<input type="radio"/>
PERFORM CRRT for AKI (ITU/ICU)	<input type="radio"/>	<input type="radio"/>
PRESCRIBE Kidney Biopsy	<input type="radio"/>	<input type="radio"/>
PERFORM Kidney Biopsy	<input type="radio"/>	<input type="radio"/>
PERFORM Temporary Central Venous Catheter Placement	<input type="radio"/>	<input type="radio"/>
PERFORM Tunneled Central Venous Catheter Placement	<input type="radio"/>	<input type="radio"/>
PERFORM Arteriovenous Fistula Creation	<input type="radio"/>	<input type="radio"/>
PERFORM Peritoneal Dialysis Catheter Placement	<input type="radio"/>	<input type="radio"/>

Other (please specify)

27. Do nephrologists commonly work in each of these discrete practice locations?

	Yes	No
Dialysis Units In Hospitals	<input type="radio"/>	<input type="radio"/>
All Other Dialysis Units	<input type="radio"/>	<input type="radio"/>
Transplant Centres—Hospital Based	<input type="radio"/>	<input type="radio"/>
Transplant Centres—Outpatient Based	<input type="radio"/>	<input type="radio"/>
CKD Clinics—Hospital Based	<input type="radio"/>	<input type="radio"/>
CKD Clinics—Outpatient Based	<input type="radio"/>	<input type="radio"/>
Intensive Therapy Units/Intensive Care Units	<input type="radio"/>	<input type="radio"/>
Outpatient Locations	<input type="radio"/>	<input type="radio"/>
Private Offices	<input type="radio"/>	<input type="radio"/>
Interventional Radiology Suites	<input type="radio"/>	<input type="radio"/>

Other practice locations (please specify)

28. How often do nephrologists routinely round on dialysis patients in the following practice settings? (Please note not all answers will apply to certain modalities/settings)

	Every Dialysis Session	Approximately Once a Week	Approximately Once a Month	Every 2 to 4 Months	Every 6 Months or More	Other (please specify)	N/A
Dialysis Units in Hospitals with On-Site Nephrologists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All Other Dialysis Units	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Home Hemodialysis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Peritoneal Dialysis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

29. Do nephrologists commonly provide/address the following areas of care? (Select all that apply)

- Hypertension
- AKI
- CKD Stages 1–3
- CKD Stages 4–5
- Glomerulonephritis/Vasculitis
- Acute Dialysis
- Chronic Hemodialysis
- Chronic Peritoneal Dialysis
- CRRT in ITU/ICU
- Transplantation—Early (e.g., months 1–6)
- Transplantation—Late (e.g., months 7+)
- Conservative Care for ESRD
- Living Kidney Donor Work-Up/Evaluation
- Other (please specify)

30. Do nephrologists have dedicated roles or specialize in any of following therapeutic areas? (Select all that apply)

	Dedicated Roles	Formally Specialize
Dialysis (Haemodialysis and/or Peritoneal Dialysis)	<input type="checkbox"/>	<input type="checkbox"/>
Kidney Transplantation	<input type="checkbox"/>	<input type="checkbox"/>
Glomerulonephritis/Vasculitis	<input type="checkbox"/>	<input type="checkbox"/>
CKD	<input type="checkbox"/>	<input type="checkbox"/>
Interventional Nephrology	<input type="checkbox"/>	<input type="checkbox"/>
Intensive Care/High Dependency or Critical Care Nephrology	<input type="checkbox"/>	<input type="checkbox"/>
Onconeurology	<input type="checkbox"/>	<input type="checkbox"/>
Adult/Pediatric Nephrology	<input type="checkbox"/>	<input type="checkbox"/>
CKD—Mineral and Bone Disorder (CKD-MBD)	<input type="checkbox"/>	<input type="checkbox"/>
Kidney Stones/Nephrolithiasis	<input type="checkbox"/>	<input type="checkbox"/>

Other (please specify)

Kidney Care and Other Physicians

31. Which physicians are PRIMARILY responsible for these services/therapeutic areas in your country?

	Nephrologists	Physicians in Other Specialties (e.g., cardiology, endocrinology, urology)	Surgeons	Family or General Practitioners/Primary Care Providers
Resistant/Complex Hypertension	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AKI Stages 1–3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CKD Stages 1–3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CKD Stages 4–5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Glomerulonephritis/ Vasculitis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acute Dialysis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chronic Hemodialysis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chronic Peritoneal Dialysis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRRT in ITU/ICU	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transplantation—Early (e.g., months 1–6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transplantation—Late (e.g., months 7+)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conservative Care for ESRD	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Living Kidney Donor Work- Up/Evaluation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

Kidney Care Provided by Non-Physicians/Kidney Care Team

32. What kidney health services are performed by non-physician health care professionals (kidney care team members or physician extenders)? (Select all that apply)

	Nephrology Assistants— Medically Qualified (Non-Consultant Grade Specialists or PAs)	Nephrologist Assistants —Specialist Nurses	Nephrologist Assistants —Other Specialist HCPs (e.g., Nutritionists, LCSWs)	Non-Medical Technicians	Non-Medical Trained Volunteers
Resistant/Complex Hypertension	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AKI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CKD Stages 1–3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CKD Stages 4–5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Glomerulonephritis/ Vasculitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Acute Dialysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chronic Dialysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chronic Peritoneal Dialysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CRRT in ITU/ICU	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transplantation—Early (e.g., months 1–6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transplantation—Late (e.g., months 7+)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conservative Care for ESRD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Living Kidney Donor Work- Up/Evaluation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other (please specify)

Health Care System and Patient Population

33. What kind of health system do you have?

- Public/Government
- Private For-Profit or Not-For-Profit
- Combined Public and Private
- Other (please specify)

34. Do dialysis units require nephrologists to be on site?

- Yes
- No

35. Where are your dialysis facilities based?

- Dialysis Units Are in Hospitals with On-Site Nephrologists
- Dialysis Units Are in Other Locations
- Both
- Other (please specify)

36. How many dialysis units are there in your country (best estimate)?

37. How many kidney transplant centres are there in your country (where transplants are being performed) (best estimate)?

Thank You for Your Contributions to Global Kidney Research

On behalf of our societies and kidney health professionals across the world, thank you for contributing your insights to this important research.

If you have any questions about this survey or this collaboration between ASN, ERA-EDTA, and ISN, please contact ASN Data Science Officer Kurtis Pivert at kpivert@asn-online.org or +1 202.699.0238.

Sincerely,

Raymond C. Harris, MD, FASN
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