



This is the overview page

### A global assessment of kidney care workforce

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## A global assessment of kidney care workforce

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39  
40 GKHA) and co-senior authors.  
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1  
2  
3 **ABSTRACT:** 250 words  
4

5 **Background:**  
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7  
8 An adequate workforce is needed to guarantee optimal kidney care. We used the  
9  
10 International Society of Nephrology Global Kidney Health Atlas (ISN-GKHA) to provide  
11  
12 an assessment of the global kidney care workforce.  
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14 **Methods**  
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17 We conducted a multinational cross-sectional survey to evaluate the global capacity of  
18  
19 kidney care and assessed data on the numbers of adult and pediatric nephrologists, the  
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21 numbers of trainees in nephrology, and shortages of various cadres of workforce for  
22  
23 kidney care. Data are presented according to the ISN region and World Bank income  
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25 categories.  
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28 **Results**  
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31 Overall, stakeholders from 167 countries responded to the survey. The median global  
32  
33 prevalence of nephrologists was 11.75 (interquartile range [IQR]: 1.78-24.76) per million  
34  
35 population (pmp). Four regions had median nephrologist prevalences below global  
36  
37 median: Africa (1.12 pmp), South Asia (1.81 pmp), Oceania and South East Asia (3.18  
38  
39 pmp), and Newly Independent States and Russia (9.78 pmp). The overall prevalence of  
40  
41 pediatric nephrologists was 0.69 (IQR: 0.03-1.78) pmp while overall nephrology trainee  
42  
43 prevalence was 1.15 (IQR:0.18-3.81) pmp with significant variations across both regions  
44  
45 and World Bank income groups. More than half of countries reported shortages of  
46  
47 transplant surgeons (65%), nephrologists (64%), vascular access coordinators (59%),  
48  
49 dialysis nurses (58%), and interventional radiologists (54%) with severe shortages  
50  
51 reported from low-income and lower-middle income countries.  
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**Conclusions:**

There are significant limitations in the available kidney care workforce in large parts of the world. To ensure the delivery of optimal kidney care worldwide, it is essential to develop national and international strategies and training capacity to address workforce shortages.

**Key Learning Points:****What is already known about this topic?**

- There is a global shortage of the healthcare workforce.
- The nephrology workforce is severely lacking in low-resource countries.

**What this study adds?**

- Up to 75% of global populations do not have adequate numbers of nephrologists to guarantee optimal kidney care.
- Most countries also reported shortages for optimal delivery of kidney care, including particularly lacking the surgical workforce for kidney care in low-resource nations.

**What impact this may have on practice, or policy?**

- This study identifies the need for implementation strategies to expand the nephrology workforce, especially in lower-income regions.

**Keywords:** low-resource, nephrologists, nurses, surgeons, trainees, workforce

## INTRODUCTION

As the prevalences of chronic kidney disease (CKD) and kidney failure continue to rise worldwide [1,2], there has been an increased focus on the availability of a skilled workforce capable of matching the growing disease burden and delivering optimal kidney care [3-8]. Even though low-income countries (LICs) and lower-middle-income countries (LMICs) bear a disproportionately higher burden of CKD [1,2], these regions have lower workforce capacity to meet the needs of people living with kidney disease [7]. Data from high-income countries (HICs) have also identified clinical and academic workforce gaps [9]. An adequately skilled workforce is critical for delivering comprehensive services related to the care of people with kidney diseases, including the identification and treatment of risk factors, initiation of kidney replacement therapies (KRT, including dialysis and kidney transplantation), conservative kidney management, and management of CKD and kidney failure complications.

Despite nephrologists having the primary medical responsibility of caring for people with kidney diseases, shortages have been reported in several countries and world regions [3] with concomitant shortages of other cadres of healthcare workers [3,7,10]. The reasons for nephrology workforce shortages are myriad, including an aging workforce, lack of capacity for training, inability to retain qualified nephrologists, a declining interest in nephrology among trainees, rising cost of medical education and specialist training, and inflexible work schedules leading to high burnout [6,10]. These factors may apply differently across countries, especially by income categories. Using

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3 data from the International Society of Nephrology-Global Kidney Health Atlas (ISN-  
4 GKHA), we describe and update the current global status of the nephrology workforce.  
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## 10 **METHODS**

### 11 **Study Design**

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14 Detailed methods of the ISN-GKHA study have been published elsewhere [11];  
15 however, the specific methods applicable to this work are provided in Supplementary  
16 Appendices 1 and 2. Data in Supplementary Table S1 were from literature review [12];  
17 all other data were from the survey.  
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## 26 **RESULTS**

### 27 ***Availability of general medical workforce***

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30 Globally, there were median prevalences of 17.7 medical doctors per 1000  
31 population, 2.0 specialist physicians per 1000 population, and 36.2 nurses per 1000  
32 population. The availability of these professionals varied substantially across ISN  
33 regions and by World Bank income groups (Supplementary Table S1) [12]. Across  
34 regions, Africa had the lowest prevalence of general medical workforce while Western  
35 Europe had the highest: medical doctors (per 1000 population) – 1.5 vs 42.3; specialist  
36 internal medicine physicians – 0.2 vs 3.9; and nurses – 9.5 vs 117.8. Overall, the ratio  
37 of nurses to medical doctors was 2:1 and was highest in Africa (6.2:1) and lowest in  
38 Latin America (1.2:1). The ratio was 7.7:1 in LICs and 2.3:1 in HICs. The prevalences of  
39 medical doctors, specialist internal medicine physicians, and nurses were more than 34-  
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3 fold, 37-fold, and 10-fold, respectively, in HICs than in LICs (Supplementary Table S1)  
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### 10 ***Primary responsibility for medical care of people with kidney failure and*** 11 ***availability of nephrologists*** 12 13

14 Globally, nephrologists were primarily responsible for the medical care of people  
15 with kidney failure in 145 (87%) countries. This was followed by care received from  
16 primary care physicians (n=11; 7%), multidisciplinary teams (n=5; 3%), and nurse  
17 practitioners (n=2; 1%) (Supplementary Table S2). All countries in Eastern and Central  
18 Europe and in Newly Independent States (NIS) and Russia reported that nephrologists  
19 were primarily responsible for the medical care of people with kidney failure.  
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30 Globally, the prevalence of nephrologists varied widely across countries (Figure  
31 1). Liechtenstein had the highest prevalence of nephrologists (100.7 pmp) while  
32 Afghanistan had the lowest (0.03 pmp). The overall prevalence of nephrologists was  
33 11.75 pmp (IQR:1.78–24.76). Africa (1.12 pmp [IQR: 0.32–2.22]) had the lowest  
34 prevalence of nephrologists while North and East Asia (28.72 pmp [IQR: 15.43–67.85])  
35 had the highest prevalence (Supplementary Table S3). The median prevalence of  
36 nephrologists increased with increasing World Bank income levels: LICs – 0.30 pmp,  
37 LMICs – 1.78 pmp, upper-middle-income countries (UMICs) – 11.91 pmp, and HICs –  
38 25.33 pmp (Figure 2). The absolute number of nephrologists was reported to be one in  
39 eight countries (Central African Republic, Malawi, Lesotho, British Virgin Islands, Turks  
40 and Caicos Islands, Papua New Guinea, Afghanistan, and Bhutan), while the  
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3 approximate absolute numbers in the United States and Japan were 10,000 and 11,000  
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5 respectively. The global median prevalence of pediatric nephrologists was 0.69 pmp  
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7 (IQR: 0.03–1.78) with the highest prevalence reported in Eastern and Central Europe  
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9 (2.41 pmp [IQR: 1.65–2.71]) and the lowest in North America and the Caribbean (0.0  
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11 pmp [IQR: 0.0–1.31]). The prevalence of pediatric nephrologists increased with  
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13 increasing World Bank income levels from 0.03 pmp (IQR: 0.0–0.06) in LICs to 1.65  
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15 pmp (IQR: 0.71–3.74) in HICs (Figure 2). Thirty-six (23.7%) countries did not have a  
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17 pediatric nephrologist, 12 (7.9%) countries had only one pediatric nephrologist, while 17  
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19 (11.2%) countries had at least 100 pediatric nephrologists.  
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26 Women nephrologists (adults and pediatrics) accounted for 35% (IQR: 16.9–  
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28 50.0) of all nephrologists with the highest proportion identified in Eastern and Central  
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30 Europe (65% [IQR: 52.5–80.0]) and lowest in South Asia (17.5% [IQR: 2.5–25.0]). The  
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32 proportion of women nephrologists was lowest in LICs (12% [IQR:0.0–29.0]) and  
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34 increased with increasing World Bank income levels (Supplementary Table S3).  
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#### 40 ***Availability of nephrology trainees and training programs in nephrology***

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42 The overall median prevalence of nephrology trainees was 1.15 pmp (IQR: 0.18–  
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44 3.81) and increased with increasing World Bank income levels - from 0.06 pmp (IQR:  
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46 0.0–0.24) in LICs to 3.88 pmp (IQR: 1.31–6.73) in HICs (Supplementary Table S4). The  
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48 prevalence of nephrology trainees was lowest in Mozambique (0.03 pmp) and highest in  
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50 Italy (49.1 pmp). Training programs for adult nephrologists were available in 121 (73%)  
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52 countries, while programs for training pediatric nephrologists were available in 80 (48%)  
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3 countries. All countries in North and East Asia had training programs for adult and  
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5 pediatric nephrology. Countries in North America and the Caribbean had the lowest  
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7 availability of training programs for adult nephrology training (n=3; 25%; Canada,  
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9 Jamaica, and the United States) and also had the lowest for pediatric nephrology  
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11 training (n=2; 17%; Canada and United States). Half of LICs (n=10; 50%) had a training  
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13 program for adult nephrology training, and 20% (n=4) had a pediatric nephrology  
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15 training program (Supplementary Table S5). Overall, a range of 2–4 years (n=82; 68%),  
16  
17 was the most common duration of training for adult nephrology programs. This was also  
18  
19 the most common length of training across all regions and World Bank income levels  
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21 and for pediatric nephrology training programs (Supplementary Tables S6 and S7). In  
22  
23 25 (35%) countries, nephrology training programs (adult and pediatrics) had a research  
24  
25 component (e.g., M.Sc. or PhD). The distribution of countries with research training  
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27 programs varied by ISN regions and World Bank income levels (Supplementary Table  
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29 S8). The Democratic Republic of Congo was the only LIC that included research  
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31 programs in nephrology training.  
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### 40 ***Workforce shortages for provision of kidney care***

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42 Most countries reported shortages of nephrology workforce for optimal delivery of  
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44 kidney care (Supplementary Table S9). Overall, a shortage of pediatric nephrologists  
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46 was reported by most countries (n=116; 69%), followed by transplant surgeons (n=109;  
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48 65%), palliative care physicians (n=109; 65%), and nephrologists (n=107; 64%). Most of  
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50 the shortages reported were highest in Africa. For instance, nearly all countries in Africa  
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52 (n=40; 98%) reported shortages of pediatric nephrologists (compared with 5 countries  
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3 [23%] in Western Europe) (Supplementary Table S9). Shortages of surgical workforce  
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5 for kidney care were particularly marked in LICs, including for transplant surgeons  
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7 (n=18; 90%), surgeons or interventional radiologists for fashioning of arteriovenous  
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9 fistulae/graft (n=20; 100%), and surgeons or interventional radiologists for insertion of  
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11 peritoneal dialysis catheters (n=18; 90%) (Supplementary Table S9).  
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## 17 **DISCUSSION**

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19 In this global survey from 167 countries in the ISN-GKHA, nephrologists were  
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21 primarily responsible for providing medical care to people with kidney failure across  
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23 regions and World Bank income levels. The key findings of this study include the low  
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25 prevalence of nephrologists (adults and pediatrics) in LICs and LMICs, low number of  
26  
27 trainees and training programs in nephrology in several countries, and high shortage of  
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29 other cadres of nephrology workforce, especially for providing surgical services in  
30  
31 nephrology. This huge disparity in the availability of the nephrology workforce between  
32  
33 countries, primarily based on economic development, is concerning, given the high and  
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35 rapidly growing burden of kidney diseases in low-resource nations.  
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42 Similar to the previous ISN-GKHA iterations [13,14], this study has identified  
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44 comparable gaps in workforce availability that point to the need to develop  
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46 implementation strategies to close gaps, especially in LICs and LMICs. Although data  
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48 on what constitutes an adequate number of nephrologists is lacking, Wu et al. [15] from  
49  
50 China reported that 12 to 20 nephrologists pmp would be required to deliver effective  
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52 kidney care. Using this cut-off, LICs (0.30 pmp), LMICs (1.78 pmp), and UMICs (11.91  
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3 pmp) do not have adequate numbers of nephrologists even though they represent more  
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5 than three-quarters of the global population. While it may not be feasible to expect many  
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7 countries to be able to reach such targets in the short term, effective plans are needed  
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9 to expand the nephrology workforce and guarantee that optimal and high-quality kidney  
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11 care remains available across all countries [6].  
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17 Factors that have been linked to nephrology workforce shortages are diverse and  
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19 differ by world region and World Bank income level. In HICs, declining interest in  
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21 nephrology is a commonly reported reason and can be addressed by increasing contact  
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23 and providing early exposure to nephrology, promoting mentoring in medical schools,  
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25 improving the experience of trainees, incorporating procedural skills in nephrology  
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27 curricula, adopting active approaches to deal with issues of dissatisfaction, burnout,  
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29 work-life balance, and remuneration [16,17]. In one study of internal medicine residents  
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31 [17], lack of advances in nephrology was a reason of not wanting to choose this field.  
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33 Specifically, respondents identified lack of exposure, lack of advances in nephrology  
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35 (available medications are old with limited options), lengthy duration of training with low  
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37 monetary compensation, complexity of the discipline, lack of mentors, and low  
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39 competitiveness in the field. This is in alignment with our findings in which few countries  
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41 that have training programs for nephrology include a formal research component. It is  
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43 essential that innovative and more effective approaches to kidney care are identified  
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45 and implemented to keep interest in the field, including environmentally sustainable  
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47 kidney care (e.g., the GREEN-K initiative [Global Environmental Evolution in  
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49 Nephrology and Kidney Care) [18], alternative models of KRT (e.g., portable, wearable  
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3 and implantable systems) [19], and embracing other novel technologies and artificial  
4 intelligence which are currently driving transformation in multiple facets of healthcare  
5 planning, training and delivery [20].  
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12 While these innovative strategies may be attractive for trainees in HICs, lower-  
13 resource nations first need to fill in gaps of severe workforce shortages and change the  
14 perception that therapies for kidney disease are futile as they are often unaffordable and  
15 unsustainable to most people. This can be done by increasing opportunities for training  
16 and improving retention of skilled workforce while minimizing the impact of brain drain.  
17 While several programs of the ISN (such as ISN Fellowship, Sister Renal Centers,  
18 Interventional Nephrology, Regional Training Centers, etc.) [21-23] continue to create  
19 opportunities for training and skill acquisition for those from low-resource nations, the  
20 impact of these programs can become more effective if partnerships are formed with  
21 other large nephrology organizations such as the European Renal Association (ERA),  
22 and the American Society of Nephrology (ASN). For instance, gaps in surgical skills  
23 (e.g., peritoneal dialysis catheter insertion, kidney biopsy, etc.) can be covered through  
24 interventional nephrology training programs [21] while knowledge in setting up  
25 nephrology clinics and dialysis centers can be achieved through general nephrology  
26 training/fellowship programs [22]. While our study identified that training programs in  
27 most countries lasted 2–4 years, shorter focused training programs based on local  
28 needs as well as on primary care needs and prevention are pivotal to care delivery in  
29 low-resource nations (e.g., effective management of acute kidney injury [AKI]) could  
30 also be utilized [24]. Similarly, increased availability of technology and electronic health  
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3 platforms should be leveraged for teaching, training, and to support clinical care and  
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5 self-management in people with kidney diseases [25,26].  
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10 Projections for global health workforce shortages indicate that by 2030, global  
11 shortages of workforce would have declined by 33% (from 15 million in 2020 to 10  
12 million in 2030) [27]. However, World Health Organization African and Eastern  
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14 Mediterranean regions' shortages are projected to decrease by only 7% and 15%,  
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16 respectively, suggesting persistence in the non-availability of essential workers in these  
17  
18 regions [27]. Task-shifting is a means for addressing shortages and potentially  
19  
20 improving health system performance and outcomes by rationalizing the redistribution of  
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22 specific tasks from highly qualified physicians to non-physician healthcare workers,  
23  
24 such as nurses and other frontline workers [28]. While this strategy has been used  
25  
26 successfully in other fields [29], it has not been rigorously tested in nephrology. In a  
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28 scoping review [30] that included 33 studies from 10 countries, only one study was  
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30 related to shifting interventions in kidney management, reporting that nurse-led  
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32 interventions resulted in improved AKI detection, fluid charting, and overall  
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34 management. Our study identified higher nurse-to-medical doctor ratios in LICs and  
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36 regions such as Africa, suggesting the potential to assess the feasibility of implementing  
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38 task-shifting strategies to close gaps in nephrologist shortages [30]. Studies are needed  
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40 to assess the feasibility of task-shifting strategies with an understanding of barriers to  
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42 effective task-shifting and upskilling policies.  
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3           There were several limitations to this study including having a cross-sectional  
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5 design, reliance on online responses based on responder knowledge, potential for  
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7 social desirability bias, and the inability to assess detailed granular information such as  
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9 the geographic within-country distribution of available workforce or availability of other  
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11 workforce such as pharmacists. However, strengths of this study include the use of data  
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13 from a comprehensive literature review and a large global survey on the availability and  
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15 accessibility to kidney care professionals from 167 participating countries.  
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## 21 **CONCLUSIONS**

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23           As documented by previous iterations, the current iteration of the ISN-GKHA  
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25 shows shortages of various cadres of workforce necessary for optimal delivery of kidney  
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27 care, especially of nephrologists who bear primary responsibility for the medical care of  
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29 people with kidney diseases. Identifying implementation to close identified workforce  
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31 gaps has become critical. While low-resource countries may need to emphasize training  
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33 and workforce retention, HICs may need to identify ways of improving interest in  
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35 nephrology to attract more trainees. Robust global partnerships will need to be formed  
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38 to ensure that strategies are effective for closing gaps in the nephrology workforce.  
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**Data availability statement:**

De-identified participant data will be available upon request to the corresponding author.

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**Author contributions:**

I.G.O., S.L.T., S.M.S., F.J.C., S.A., S.D., J.D., A.L., A.K.B., D.W.J. conceptualized the study and designed and developed the methodology. I.G.O., S.A., S.D., J.D., A.L., S.S., F.Y., A.K.B., D.W.J. conducted the research and investigation process and were responsible for the project administration. I.G.O., S.A., S.D., J.D., A.L., F.Y., A.K.B., D.W.J. supervised the study. F.Y., S.S., I.G.O., A.K.B., D.W.J. were responsible for the formal analysis of the project. I.G.O., S.L.T., M-Y.C, S.M.S., S.T., F.J.C., P.R., O.I.A., S.A., S.D., J.D., V.J., A.L., M.N., S.S., M.T., F.Y., A.K.B., D.W.J. wrote the original draft

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3 of the manuscript. All authors reviewed and edited the final manuscript. Each author  
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5 contributed important intellectual content during manuscript drafting or revision and  
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7 accepted overall accountability for the work.  
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38 work. AKB reports other (consultancy and honoraria) from AMGEN Incorporated and  
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40 Otsuka, other (consultancy) from Bayer and GSK, and grants from Canadian Institute of  
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42 Health Research and Heart and Stroke Foundation of Canada, outside the submitted  
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44 work; He is also Associate Editor of the Canadian Journal of Kidney Health and Disease  
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46 and Co-chair of the ISN-Global Kidney Health Atlas. DWJ reports consultancy fees,  
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## Figure Legends

**Figure 1.** Global prevalence of nephrologists.

Abbreviations: pmp – per million population

**Figure 2.** Median prevalence of adult and pediatric nephrologists, by ISN region and World Bank income group.

Abbreviations: ISN – International Society of Nephrology; NIS – Newly Independent States; pmp – per million population

## SUPPLEMENTARY MATERIAL

**Supplementary Appendix 1.** Study Methods.

**Supplementary Appendix 2.** Study survey.

**Supplementary Table S1.** Availability of medical doctors, specialist physicians, and nurses (per 1000 population), by ISN region and World Bank income group.

**Supplementary Table S2.** Healthcare professionals primarily responsible for the delivery of care to people with kidney failure, by ISN region and World Bank income group (N, %).

**Table S3:** Number of nephrologists and proportion of women nephrologists (adults and pediatrics) by ISN region and World Bank income groups.

**Supplementary Table S4.** Proportion of nephrology trainees, by ISN region and World Bank income group.

**Supplementary Table S5.** Availability of training programs for adult and pediatric nephrology, by ISN region and World Bank income group (N, %).

**Supplementary Table S6.** Training duration for adult nephrology programs, by ISN region and World Bank income group (N, %).



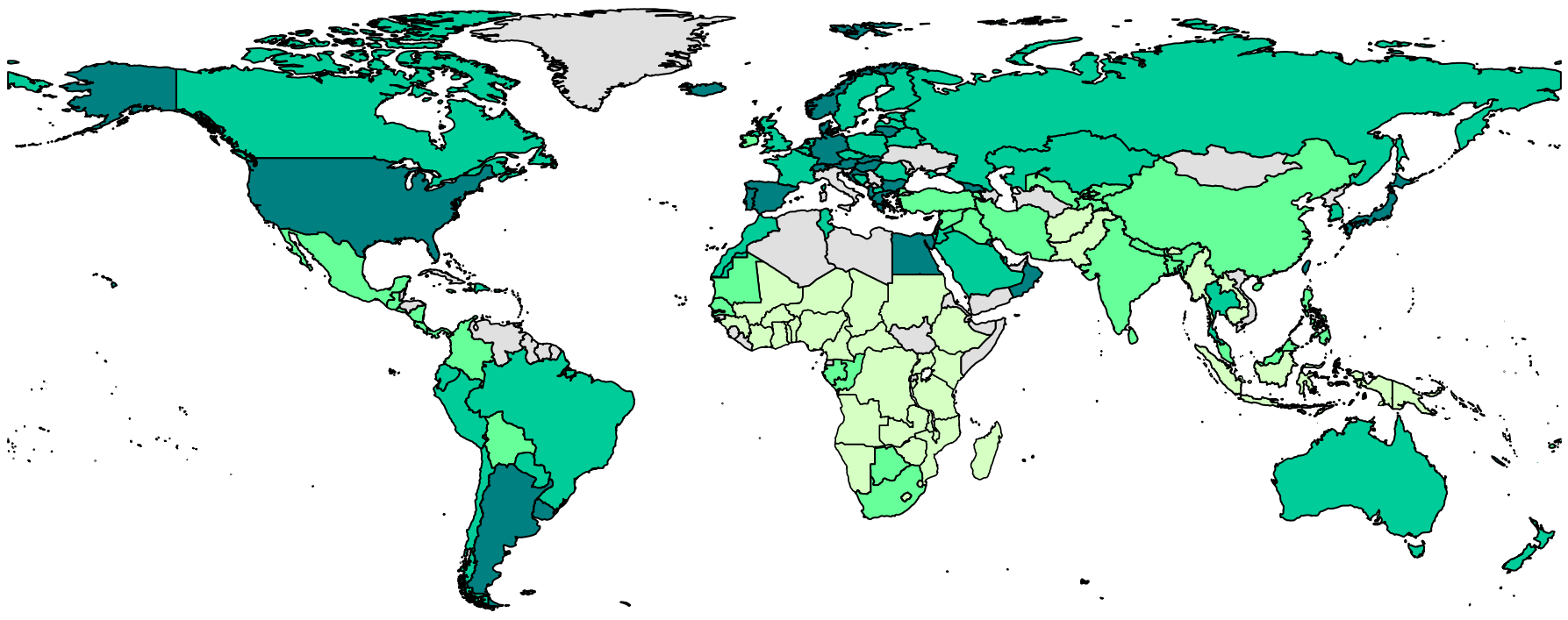
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3 **Supplementary Table S7.** Training duration for pediatric nephrology training programs,  
4 by ISN region and World Bank income group (N, %).  
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7 **Supplementary Table S8.** Inclusion of a research programs in nephrology training  
8 (adults and pediatrics), by ISN region and World Bank income group (N, %).  
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11 **Supplementary Table S9:** Nephrology workforce shortages for kidney care, by ISN  
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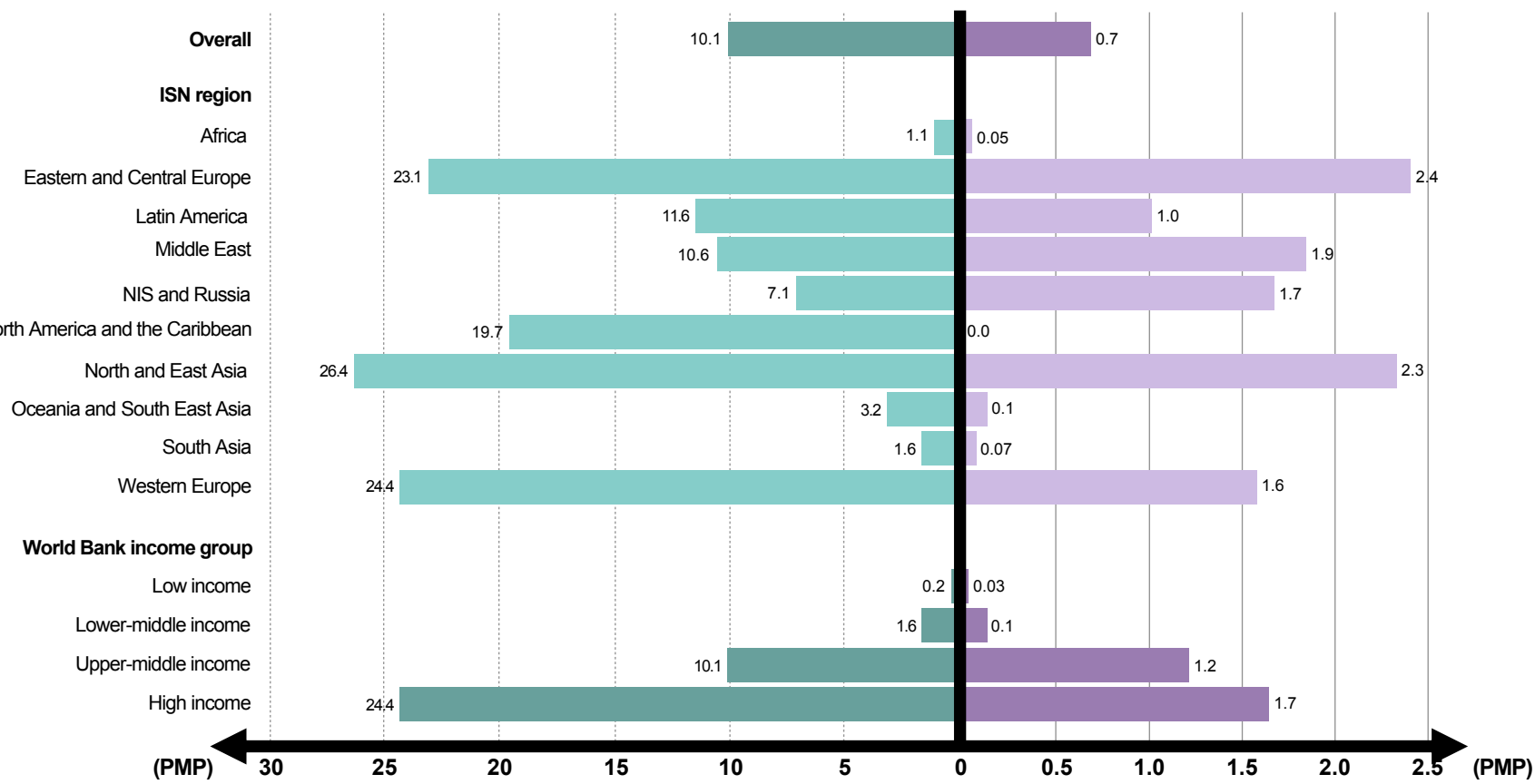


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**Adult nephrologists**

**Pediatric nephrologists**



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### Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work?  Yes  No

## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 5. Relationships not covered above

Are there other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work?

- Yes, the following relationships/conditions/circumstances are present (explain below):
- No other relationships/conditions/circumstances that present a potential conflict of interest

At the time of manuscript acceptance, journals will ask authors to confirm and, if necessary, update their disclosure statements. On occasion, journals may ask authors to disclose further information about reported relationships.

### Section 6. Disclosure Statement

Based on the above disclosures, this form will automatically generate a disclosure statement, which will appear in the box below.

**Generate Disclosure Statement**

Dr. Caskey has nothing to disclose.

### Evaluation and Feedback

Please visit <http://www.icmje.org/cgi-bin/feedback> to provide feedback on your experience with completing this form.

## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 1. Identifying Information

1. Given Name (First Name)

Mogamat-Yazied

2. Surname (Last Name)

Chothia

3. Date

17-August-2023

4. Are you the corresponding author?

 Yes  No

Corresponding Author's Name

Ikechi Okpechi

5. Manuscript Title

A global assessment of kidney care workforce

6. Manuscript Identifying Number (if you know it)

### Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were **present during the 36 months prior to publication**.

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work?  Yes  No

## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 5. Relationships not covered above

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### Section 6. Disclosure Statement

Based on the above disclosures, this form will automatically generate a disclosure statement, which will appear in the box below.

**Generate Disclosure Statement**

Dr. Chothia has nothing to disclose.

### Evaluation and Feedback

Please visit <http://www.icmje.org/cgi-bin/feedback> to provide feedback on your experience with completing this form.

## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 1. Identifying Information

1. Given Name (First Name) Sandrine	2. Surname (Last Name) Damster	3. Date 16-August-2023
4. Are you the corresponding author?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Corresponding Author's Name Ikechi Okpechi
5. Manuscript Title A global assessment of kidney care workforce		
6. Manuscript Identifying Number (if you know it)		

### Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 3. Relevant financial activities outside the submitted work.

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Are there any relevant conflicts of interest?  Yes  No

If yes, please fill out the appropriate information below.

Name of Entity	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments	
The International Society of Nephrology	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	employee	X

ADD

### Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work?  Yes  No



## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 5. Relationships not covered above

Are there other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work?

- Yes, the following relationships/conditions/circumstances are present (explain below):
- No other relationships/conditions/circumstances that present a potential conflict of interest

At the time of manuscript acceptance, journals will ask authors to confirm and, if necessary, update their disclosure statements. On occasion, journals may ask authors to disclose further information about reported relationships.

### Section 6. Disclosure Statement

Based on the above disclosures, this form will automatically generate a disclosure statement, which will appear in the box below.

**Generate Disclosure Statement**

Sandrine Damster reports personal fees (employee) from The International Society of Nephrology, outside the submitted work.

### Evaluation and Feedback

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## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 1. Identifying Information

1. Given Name (First Name)	2. Surname (Last Name)	3. Date
Jo-Ann	Donner	16-August-2023
4. Are you the corresponding author?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Corresponding Author's Name
		Ikechi Okpechi
5. Manuscript Title	A global assessment of kidney care workforce	
6. Manuscript Identifying Number (if you know it)		

### Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were **present during the 36 months prior to publication**.

Are there any relevant conflicts of interest?  Yes  No

If yes, please fill out the appropriate information below.

Name of Entity	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments	
The International Society of Nephrology	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	employee	<input checked="" type="checkbox"/>

ADD

### Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work?  Yes  No

## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 5. Relationships not covered above

Are there other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work?

- Yes, the following relationships/conditions/circumstances are present (explain below):
- No other relationships/conditions/circumstances that present a potential conflict of interest

At the time of manuscript acceptance, journals will ask authors to confirm and, if necessary, update their disclosure statements. On occasion, journals may ask authors to disclose further information about reported relationships.

### Section 6. Disclosure Statement

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**Generate Disclosure Statement**

Jo-Ann Donner reports personal fees (employee) from The International Society of Nephrology, outside the submitted work.

### Evaluation and Feedback

Please visit <http://www.icmje.org/cgi-bin/feedback> to provide feedback on your experience with completing this form.

## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 1. Identifying Information

1. Given Name (First Name) Vivekanand	2. Surname (Last Name) Jha	3. Date 27-August-2023
4. Are you the corresponding author?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Corresponding Author's Name Ikechi Okpechi
5. Manuscript Title A global assessment of kidney care workforce		
6. Manuscript Identifying Number (if you know it)		

### Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were **present during the 36 months prior to publication**.

Are there any relevant conflicts of interest?  Yes  No

If yes, please fill out the appropriate information below.

Name of Entity	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments	
GSK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Paid to my organization	×
Astra Zeneca	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Paid to my organization	×
Baxter Healthcare	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Paid to my organization	×
Visterra	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Paid to my organization	×
Biocryst	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Paid to my organization	×
Chinook	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Paid to my organization	×
Vera	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Paid to my organization	×
Bayer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Paid to my organization	×

## ICMJE Form for Disclosure of Potential Conflicts of Interest

ADD

### Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work?  Yes  No

### Section 5. Relationships not covered above

Are there other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work?

- Yes, the following relationships/conditions/circumstances are present (explain below):
- No other relationships/conditions/circumstances that present a potential conflict of interest

At the time of manuscript acceptance, journals will ask authors to confirm and, if necessary, update their disclosure statements. On occasion, journals may ask authors to disclose further information about reported relationships.

### Section 6. Disclosure Statement

Based on the above disclosures, this form will automatically generate a disclosure statement, which will appear in the box below.

#### Generate Disclosure Statement

Dr. Jha reports personal fees from GSK, personal fees from Astra Zeneca, personal fees from Baxter Healthcare, personal fees from Visterra, personal fees from Biocryst, personal fees from Chinook, personal fees from Vera, personal fees from Bayer, outside the submitted work; .

### Evaluation and Feedback

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## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 1. Identifying Information

1. Given Name (First Name)	2. Surname (Last Name)	3. Date
David	Johnson	15-September-2023
4. Are you the corresponding author?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Corresponding Author's Name
		Ikechi Okpechi
5. Manuscript Title	A global assessment of kidney care workforce	
6. Manuscript Identifying Number (if you know it)		

### Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were **present during the 36 months prior to publication**.

Are there any relevant conflicts of interest?  Yes  No

If yes, please fill out the appropriate information below.

Name of Entity	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments	
Baxter Healthcare	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Consultancy fees, speaker's honoraria, Clinical Evidence Council grant	×
Fresenius Medical Care	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Research grant, speakers' honoraria, consultancy fees	×
Amgen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Travel sponsorship	×
Astra Zeneca	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Consultancy fees	×
AWAK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Consultancy fees	×
National Health and Medical Research Council of Australia	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Leadership Investigator Grant	×

## ICMJE Form for Disclosure of Potential Conflicts of Interest

Name of Entity	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments	
Ono	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Speaker's honoraria	<input checked="" type="checkbox"/>
Lilly	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Speaker's honoraria	<input checked="" type="checkbox"/>
Bayer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Consultancy fees	<input checked="" type="checkbox"/>
						<b>ADD</b>

### Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work?  Yes  No

### Section 5. Relationships not covered above

Are there other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work?

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### Section 6. Disclosure Statement

Based on the above disclosures, this form will automatically generate a disclosure statement, which will appear in the box below.

#### Generate Disclosure Statement

Dr. Johnson reports grants and personal fees from Baxter Healthcare, grants and personal fees from Fresenius Medical Care, other from Amgen, personal fees from Astra Zeneca, personal fees from AWAK, grants from National Health and Medical Research Council of Australia, personal fees from Ono, personal fees from Lilly, personal fees from Bayer, outside the submitted work; .



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## ICMJE Form for Disclosure of Potential Conflicts of Interest

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### Evaluation and Feedback

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For Peer Review



## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 1. Identifying Information

1. Given Name (First Name)

Adeera

2. Surname (Last Name)

Levin

3. Date

17-August-2023

4. Are you the corresponding author?

 Yes  No

Corresponding Author's Name

Ikechi Okpechi

5. Manuscript Title

A global assessment of kidney care workforce

6. Manuscript Identifying Number (if you know it)

### Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were **present during the 36 months prior to publication**.

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work?  Yes  No

## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 5. Relationships not covered above

Are there other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work?

- Yes, the following relationships/conditions/circumstances are present (explain below):
- No other relationships/conditions/circumstances that present a potential conflict of interest

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### Section 6. Disclosure Statement

Based on the above disclosures, this form will automatically generate a disclosure statement, which will appear in the box below.

**Generate Disclosure Statement**

Dr. Levin has nothing to disclose.

### Evaluation and Feedback

Please visit <http://www.icmje.org/cgi-bin/feedback> to provide feedback on your experience with completing this form.

## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 1. Identifying Information

1. Given Name (First Name) Masaomi	2. Surname (Last Name) Nangaku	3. Date 08-September-2023
4. Are you the corresponding author?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Corresponding Author's Name Ikechi Okpechi
5. Manuscript Title A global assessment of kidney care workforce		
6. Manuscript Identifying Number (if you know it)		

### Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 3. Relevant financial activities outside the submitted work.

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Are there any relevant conflicts of interest?  Yes  No

If yes, please fill out the appropriate information below.

Name of Entity	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments	
KyowaKirin	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		×
Boehringer Ingelheim	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		×
Chugai	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		×
Daiichi Sankyo	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		×
Torii	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		×
JT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		×
Mitsubishi Tanabe	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		×
Takeda	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		×

## ICMJE Form for Disclosure of Potential Conflicts of Interest

Name of Entity	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments	
Astellas	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
Akebia	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
AstraZeneca	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
GSK	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
Bayer		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
						<b>ADD</b>

### Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work?  Yes  No

### Section 5. Relationships not covered above

Are there other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work?

- Yes, the following relationships/conditions/circumstances are present (explain below):
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### Section 6. Disclosure Statement

Based on the above disclosures, this form will automatically generate a disclosure statement, which will appear in the box below.

#### Generate Disclosure Statement

Dr. Nangaku reports grants and personal fees from KyowaKirin, grants and personal fees from Boehringer Ingelheim, grants and personal fees from Chugai, grants and personal fees from Daiichi Sankyo, grants and personal fees from Torii, grants and personal fees from JT, grants and personal fees from Mitsubishi Tanabe, grants from Takeda, personal fees from Astellas, personal fees from Akebia, personal fees from AstraZeneca, personal fees from GSK, grants from Bayer, outside the submitted work; .

## ICMJE Form for Disclosure of Potential Conflicts of Interest

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### Evaluation and Feedback

Please visit <http://www.icmje.org/cgi-bin/feedback> to provide feedback on your experience with completing this form.

For Peer Review

## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 1. Identifying Information

1. Given Name (First Name)	2. Surname (Last Name)	3. Date
Parnian	Riaz	17-August-2023
4. Are you the corresponding author?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Corresponding Author's Name
		Ikechi Okpechi
5. Manuscript Title	A global assessment of kidney care workforce	
6. Manuscript Identifying Number (if you know it)		

### Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were **present during the 36 months prior to publication**.

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work?  Yes  No

## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 5. Relationships not covered above

Are there other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work?

- Yes, the following relationships/conditions/circumstances are present (explain below):
- No other relationships/conditions/circumstances that present a potential conflict of interest

At the time of manuscript acceptance, journals will ask authors to confirm and, if necessary, update their disclosure statements. On occasion, journals may ask authors to disclose further information about reported relationships.

### Section 6. Disclosure Statement

Based on the above disclosures, this form will automatically generate a disclosure statement, which will appear in the box below.

**Generate Disclosure Statement**

Dr. Riaz has nothing to disclose.

### Evaluation and Feedback

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## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 1. Identifying Information

1. Given Name (First Name) Syed	2. Surname (Last Name) Saad	3. Date 17-August-2023
4. Are you the corresponding author?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Corresponding Author's Name Ikechi Okpechi
5. Manuscript Title A global assessment of kidney care workforce		
6. Manuscript Identifying Number (if you know it)		

### Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were **present during the 36 months prior to publication**.

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work?  Yes  No



## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 5. Relationships not covered above

Are there other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work?

- Yes, the following relationships/conditions/circumstances are present (explain below):
- No other relationships/conditions/circumstances that present a potential conflict of interest

At the time of manuscript acceptance, journals will ask authors to confirm and, if necessary, update their disclosure statements. On occasion, journals may ask authors to disclose further information about reported relationships.

### Section 6. Disclosure Statement

Based on the above disclosures, this form will automatically generate a disclosure statement, which will appear in the box below.

**Generate Disclosure Statement**

Syed Saad has nothing to disclose.

### Evaluation and Feedback

Please visit <http://www.icmje.org/cgi-bin/feedback> to provide feedback on your experience with completing this form.

## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 1. Identifying Information

1. Given Name (First Name) Stephen	2. Surname (Last Name) Sozio	3. Date 17-August-2023
4. Are you the corresponding author?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Corresponding Author's Name Ikechi Okpechi
5. Manuscript Title A global assessment of kidney care workforce		
6. Manuscript Identifying Number (if you know it)		

### Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were **present during the 36 months prior to publication**.

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work?  Yes  No

## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 5. Relationships not covered above

Are there other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work?

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### Section 6. Disclosure Statement

Based on the above disclosures, this form will automatically generate a disclosure statement, which will appear in the box below.

**Generate Disclosure Statement**

Dr. Sozio has nothing to disclose.

### Evaluation and Feedback

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## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 1. Identifying Information

1. Given Name (First Name) Marcelo	2. Surname (Last Name) Tonelli	3. Date 17-August-2023
4. Are you the corresponding author?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Corresponding Author's Name Ikechi Okpechi
5. Manuscript Title A global assessment of kidney care workforce		
6. Manuscript Identifying Number (if you know it)		

### Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were **present during the 36 months prior to publication**.

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work?  Yes  No

## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 5. Relationships not covered above

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- No other relationships/conditions/circumstances that present a potential conflict of interest

At the time of manuscript acceptance, journals will ask authors to confirm and, if necessary, update their disclosure statements. On occasion, journals may ask authors to disclose further information about reported relationships.

### Section 6. Disclosure Statement

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Dr. Tonelli has nothing to disclose.

### Evaluation and Feedback

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## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 1. Identifying Information

1. Given Name (First Name) Sri Lekha	2. Surname (Last Name) Tummalapalli	3. Date 14-December-2023
4. Are you the corresponding author?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Corresponding Author's Name Ikechi Okpechi
5. Manuscript Title A global assessment of kidney care workforce		
6. Manuscript Identifying Number (if you know it)		

### Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were **present during the 36 months prior to publication**.

Are there any relevant conflicts of interest?  Yes  No

If yes, please fill out the appropriate information below.

Name of Entity	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments
Scanwell Health	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Funds to institution
SAIGroup	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Funds to institution
Abbott Pharmaceuticals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Travel support, funds to International Society of Nephrology

ADD

### Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work?  Yes  No

## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 5. Relationships not covered above

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**Generate Disclosure Statement**

Dr. Tummalapalli reports grants from Scanwell Health, grants from SAIGroup, other from Abbott Pharmaceuticals, outside the submitted work; .

### Evaluation and Feedback

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## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 1. Identifying Information

1. Given Name (First Name) Somkanya	2. Surname (Last Name) Tungsanga	3. Date 04-October-2023
4. Are you the corresponding author?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Corresponding Author's Name Ikechi Okpechi
5. Manuscript Title A global assessment of kidney care workforce		
6. Manuscript Identifying Number (if you know it)		

### Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest?  Yes  No

ADD

### Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were **present during the 36 months prior to publication**.

Are there any relevant conflicts of interest?  Yes  No

If yes, please fill out the appropriate information below.

Name of Entity	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments
International Society of Nephrology-Salmasi Family	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fellowship
Kidney Foundation of Thailand	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fellowship

ADD

### Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work?  Yes  No



## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 5. Relationships not covered above

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### Section 6. Disclosure Statement

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**Generate Disclosure Statement**

Dr. Tungsanga reports fellowship grants from the International Society of Nephrology-Salmasi Family and the Kidney Foundation of Thailand, outside the submitted work.

### Evaluation and Feedback

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## ICMJE Form for Disclosure of Potential Conflicts of Interest

### Section 1. Identifying Information

1. Given Name (First Name)

Feng

2. Surname (Last Name)

Ye

3. Date

17-August-2023

4. Are you the corresponding author?

 Yes
  No

Corresponding Author's Name

Ikechi Okpechi

5. Manuscript Title

A global assessment of kidney care workforce

6. Manuscript Identifying Number (if you know it)

### Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

 Are there any relevant conflicts of interest?
  Yes
  No

ADD

### Section 3. Relevant financial activities outside the submitted work.

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 Are there any relevant conflicts of interest?
  Yes
  No

ADD

### Section 4. Intellectual Property -- Patents & Copyrights

 Do you have any patents, whether planned, pending or issued, broadly relevant to the work?
  Yes
  No

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### Section 6. Disclosure Statement

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**Generate Disclosure Statement**

Feng Ye has nothing to disclose.

### Evaluation and Feedback

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