

Global variation in kidney care: national and regional differences in the care and management of patients with kidney failure



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The global health impacts of kidney disease are increasingly recognized because of the rising burden of disease and associated health consequences. According to the most recent estimates from the Global Burden of Disease study, chronic kidney disease (CKD) has become the 12th leading cause of death, up from the 17th position approximately 3 decades ago.¹ The number of patients with kidney failure receiving kidney replacement therapy (KRT; dialysis and transplantation) was estimated to be 2.62 million in 2010, and this figure is projected to double by 2030, affecting almost 5.44 million people worldwide and up to 14.5 million needing KRT by 2030.² This growth in the number of people requiring KRT has revealed significant disparities across nation states. For instance, treatment gaps between those who receive KRT and those who need it are quite high, particularly in low-income regions such as Asia and Africa, where 1.91 million and 0.43 million people, respectively, in 2010 were not receiving necessary KRT.² Various factors such as the public spending on health care, health system characteristics, and clinical practice culture contribute to treatment disparities. A country's capacity to provide optimal care for patients living with kidney failure largely depends on adequate funding, a workforce with sufficient capacity to meet demand, access to essential medicines, and appropriate infrastructure for care delivery. Differences in these factors across world regions and countries have not been studied systematically.

The second iteration of the International Society of Nephrology's Global Kidney Health Atlas (ISN-GKHA) provides information on the organization and structures of kidney care programs worldwide. Subject matter experts from 160 countries representing 98% of the world's population participated in a survey in 2018, and the results were published in 2019. Methodological details have been described elsewhere.³ The objective of the ISN-GKHA was to provide a snapshot of individual

country and regional health system characteristics and specific elements relevant to the management of patients with kidney failure in terms of the World Health Organization health care building blocks.

In this issue of *Kidney International Supplements*, country-specific data on kidney care are summarized and presented for each of the 10 ISN regions. Each manuscript presents data regarding characteristics of participating countries, the burden of CKD and kidney failure, health finance and service delivery, health care workforce capacity, access to essential medications and health products for kidney care, and registries and national health policies for countries in a particular region.

The introduction to the regional papers (Bello *et al.*,⁴ this issue) provides a broad overview of the overall data from a global perspective, with a special focus on regional differences in the availability and accessibility of KRT. Differences between the first and second iterations of the ISN-GKHA and some changes in the nomenclature of kidney disease used in the regional manuscripts are highlighted. A common theme that emerged from the regional papers was the lack of workforce capacity for kidney care. Shortages were particularly severe for nephrologists, with shortages reported for all countries in South Asia and Latin America, and most countries in Africa. Nephrologist shortage was less severe in Western European countries. A number of challenges specific for different regions were also noted. Oguejiofor *et al.* highlighted severe workforce shortages, limited government funding for KRT, and excessive out-of-pocket payments for kidney care services as major issues for optimal management of kidney failure in Africa and suggested an urgent need to develop and implement preventive strategies to reduce CKD burden.⁵ Dębska-Ślizień *et al.* emphasized workforce shortages in Eastern and Central Europe and suggested that these challenges could be addressed by improving the organization of nephrological care in some countries

in the region.⁶ Wainstein *et al.* argue that the large variabilities in the availability, accessibility, and quality of care in Latin America and the Caribbean were related to individual countries' funding structures, under-reliance on peritoneal dialysis (a less expensive KRT modality), and limited CKD surveillance and management initiatives.⁷ Amouzegar *et al.* reported that, although countries in the Middle East had an abundance of resources, the region still lacked reliable and cost-effective measures to improve kidney care.⁸

In reporting data for the Newly Independent States and Russia, Zakharova *et al.* highlighted low reporting of KRT quality indicators, as well as funding issues for kidney care across the region.⁹ They indicated the need for strategic government intervention and support to enhance kidney care in the region. Bello *et al.* identified significant gaps between the 2 largest countries in North America and the Caribbean (i.e., the United States and Canada) and other smaller countries in the region, and suggested that augmenting the workforce, improving the monitoring and reporting of KRT indicators, and implementing noncommunicable disease policies would enhance care, especially in the less wealthy countries.¹⁰ Zhang *et al.* reported a high burden of kidney failure in North and East Asia due to the aging of the population and the high prevalence of diabetes, cardiovascular disease, and hypertension, and showed differences in the availability of KRT modalities across jurisdictions in the region.¹¹ Ethier *et al.* revealed that although availability, accessibility, and quality of KRT were generally high in Oceania and South East Asia, variability between countries was due to inequalities in the accessibility and affordability of KRT.¹² Divyaveer *et al.* highlighted the large, but poorly documented burden of CKD in the South Asia region, and reported suboptimal and variable quality of care.¹³ They suggested that sustainable strategies needed to be developed to address the growing burden of kidney disease in the region. Finally, Dearbhla *et al.* showed that although countries in Western Europe had uniform capacity to provide care, there was scope for improvement in disease prevention and management, exemplified by the variability in disease burden and transplantation rates in the region.¹⁴

This collection of manuscripts from the 10 ISN regions provides a robust description of the state of kidney care around the world by leveraging standard metrics across regions. The

manuscripts identify important barriers and challenges that have important policy implications for how kidney care is structured and delivered.

DISCLOSURE

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