2023 ISN-GKHA (GLOBAL KIDNEY HEALTH ATLAS) REGIONAL SLIDES PRESENTATIONS

WESTERN EUROPE

SLIDE 1-2:

<Opening slides>

SLIDE 3:

Overview of presentation:

- Aim
- Methods
- Key results

SLIDE 4:

Aim of the ISN-GKHA:

- The incentive for the ISN-GKHA initiative arose from unavailability of consolidated reliable data on the status of kidney care either globally or major world regions, especially in low-resource countries that have a higher burden of kidney disease. Previous iterations of the ISN-GKHA have identified gaps in availability and access to care. Hence, in order to improve kidney care worldwide, there is need to document and update the status of kidney care globally to allow monitoring and implementation of necessary change.
- The vision of the ISN-GKHA is to achieve optimal and equitable kidney care worldwide by identifying gaps and processes to close gaps related to the capacity or equity of kidney care. Hence, the ISN-GKHA serves to collect data using standardized indicators that measure kidney care delivery to provide evidence-based recommendations to relevant stakeholders.
- Overall, the goal of the ISN-GKHA is to improve the understanding of inter- and intranational variability across the globe with respect to capacity for kidney care delivery. Through assessing and documenting capacity for kidney care across all world regions, we can work toward improving the quality and equity of kidney care worldwide.

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- Key focus on availability, accessibility, affordability, and quality of kidney failure care.
- To achieve this mission, the strategy of the ISN-GKHA is to collect data using standardized indicators that measure kidney care delivery to provide evidence-based recommendations to relevant stakeholders.
- Previous iterations (2017 and 2019) documented capacity of kidney care and identified major gaps across countries. Both iterations allowed for the establishment of overall benchmarks, within ISN regions, and across World Bank income groups.
- The current iteration was conducted in 2022 and published in 2023 and will be repeated every 4 years to monitor progress and optimally measure and address new gaps.
- Today's discussion will focus on the 2022 results, which were published in the 2023 Atlas.

SLIDE 5:

Timelines of the ISN-GKHA

SLIDE 6:

Design and scope:

- **Desk research (across countries and regions)**
  - Published and grey literature review
  - Systematic review of kidney failure burden and outcomes
  - Data extraction from major kidney registries (USRDS, ERA-EDTA) and relevant national registries where available
  - Scoping review of KRT cost estimates
- **Online questionnaire-based survey July – September 2022**
  - 3 languages (English, French, Spanish)
  - 191 countries were contacted.
  - ≥3 stakeholders per country
    - ✓ National nephrology society leadership
    - ✓ Healthcare policymakers
    - ✓ Patients / patient advocacy groups
  - Discrepancies were resolved by follow-up conferences with regional board chairs and country nephrology leaders.

SLIDE 7:

- The survey followed a framework developed by the World Health Organization (WHO) on health systems evaluation.
- This framework was released in 2010, which was a handbook of indicators and measurement strategies to monitor the building blocks of a health system. The WHO recognized that information is needed to track how health systems respond to increased inputs and improved processes, and the impact they have on improved health indicators. Therefore, a set of core indicators of health system performance was established, along with sustainable measurement strategies, to generate the required data.
- The framework considers health systems in terms of six core components or "building blocks":
  - Service delivery.
  - Health workforce.
  - Health information systems.
  - Access to essential medicines.
  - Financing; and
  - Leadership/governance
- Through addressing each of these domains, the overall goals of the WHO strategy are to improve health (level and equity), health system responsiveness, protect social and financial risk, and improve efficiency.
- The ISN-GKHA models this framework to similarly aim to achieve these objectives, specific to kidney care.

SLIDE 8:

- Of the 191 countries we invited, 167 (92%) countries participated in the 2022 survey representing 97% of the world's population.
- Individual response was obtained from 329 individuals representing a 63% response rate.
- There was a median response of 2 respondents/country (IQR 2-3).
- 108 countries participated in the 2017, 2019, and 2023 GKHA surveys.

SLIDE 9:

- The ISN-GKHA reports overall global results for each indicator and separates the data by ISN region and income group.

- The ISN-GKHA is therefore able to examine the level of variability across income levels and geographical regions.
- Knowing if there is variation between countries, either within a common ISN region or income group, is helpful when trying to promote equity of care.

SLIDE 10:

- This talk focuses on the ISN Western Europe region.

SLIDE 11 – 12:

- Responses were received from 22 of 29 countries (75.9%) of the region representing 99% of the region's population.
- All countries in the region (100%) are classified as HIC and is the only region with uniform income category of countries.
- At the time of the survey, there were 439,465,153 people living in all the countries in the region. Germany had the highest population (84.3 million) while Liechtenstein had the lowest population (39, 711).
- GDP (PPP) in the region ranges from US$ 3.3 billion (Andorra) to US$ 4.82 trillion (Germany).
- Total health spending as a percentage of GDP ranged from 5.4% in Luxembourg to 11.7% in Germany.
- Total health spending per capita ranged from US$ 1,599 (Greece) to US$ 9,801 (Switzerland). However, government health spending per capita ranged from US$ 909 (Greece) to US$ 6,300 (Norway).

SLIDE 13:

- The median CKD prevalence in the South Asia region was 10.6% (global median was 9.5%) and ranged from 7.99% in Iceland to 14.67% in Greece.
- Median disability adjusted life years (DALYs) attributed to CKD was 1.32%; lowest in Finland (0.77%) and highest in Israel (2.45%).
- Median deaths attributable to CKD was 2.59%; lowest in United Kingdom (UK) (1.25%) and highest in Israel (5.8%).
- The prevalence of other risk factors (hypertension, obesity, and smoking) varied across countries in the Western Europe region.

SLIDE 14 – 15:

- Incidence and prevalence data on treated kidney failure, chronic dialysis, and KRT modalities were readily available from most countries in this region.
- Incidence and prevalence of treated kidney failure in the region was 135 per million population (pmp) and 1,034 pmp, respectively. The incidence of treated kidney failure was lowest in Ireland (88 pmp) and highest in Greece (269 pmp). The prevalence of treated kidney failure was lowest in Luxembourg (522 pmp) and highest in Portugal (2,008 pmp).
- Overall median incidence and prevalence of chronic dialysis (HD and PD) was 103.4 pmp and 447.8, respectively. Incidence of chronic dialysis was lowest in Iceland (91.5 pmp) and was highest in Greece (267.8 pmp). Prevalence of chronic dialysis was lowest in Luxembourg (87 pmp) and highest in Greece (1,164.4 pmp).
- The overall median incidence and prevalence of HD in the region were 81.5 pmp and 495.8 pmp, respectively. Incidence of HD was lowest in Denmark (61.8 pmp) and highest in Greece (255.1 pmp). The prevalence of HD was lowest in Norway (252.2 pmp) and highest in Greece (1,100.5 pmp).
- The overall median incidence and prevalence of PD in the region was 21.4 pmp and 56.3 pmp, respectively. PD incidence was highest in Denmark (36.1 pmp) while PD prevalence was highest in Italy (89.3 pmp).
- Overall incidence of KT was 41.8 pmp (this was the highest across all regions) while the median prevalence was 569.7 pmp (also the highest across all regions).
- The overall median incidence of deceased donor KT and living donor KT were 28.5 pmp and 7.3 pmp, respectively. Incidence of pre-emptive KT was 7.1 pmp in this region.

SLIDE 16:

- The median annual cost of in-centre HD, PD, and first year KT were US$ 65,841.6, US$ 35,218.2, and US$ 74,089.2, respectively.
- Iceland had the lowest annual cost of HD (US$ 24,419) while Norway had the highest (US$ 99,419). UK had the highest annual cost of PD (US$ 83,070) while Ireland had the lowest cost of PD (US$ 18,959). Germany had the highest annual cost of first-year KT (US$ 126,993) while UK had the lowest (US$ 19,255).
- HD to PD cost ratio was ≤ 1 in 4 countries (Iceland, Italy, Spain, and Sweden) highlighting a higher cost of PD than HD in these countries.

SLIDE 17 – 18:

- Scorecards were created for each country to allow comparison of results with other countries in the same region as well as between the previous (2019) survey and current (2023) survey.
- Green represents availability, red represents not available and grey represents unknown or not applicable if they didn't complete a survey that year.
- All countries in the region have HD and PD.
- In 2023, KT is not available in Andorra, Liechtenstein, and Luxembourg.
- CKM is available in more countries in this region than in other regions,
- Many countries in this region fund dialysis and KT through public funds than countries that fund non-dialysis CKD (ND-CKD) through this means.
- Several countries in the region have dialysis and KT registries.
- Advocacy groups for CKD, kidney failure and KRT are not readily available in many countries in the region.

SLIDE 19 – 20:

- Different reimbursement methods are used to cover the cost of ND-CKD services. Overall, 16 (73%) countries reimbursed ND-CKD services through public funds (and free), 2 (9%) countries through public funds with some fees, 2 (9%) countries through a mix of public and private funds, and 1 (5%) country (Liechtenstein) through out of pocket and private methods.
- Most countries cover the cost of acute dialysis, chronic HD, chronic PD, and KT medications through public funds and free at point of delivery. Only Liechtenstein use solely private and out-of-pocket methods to cover the cost of these services.

SLIDE 21:

- Nephrologists bear primary responsibility for kidney failure care in most countries (91%) in the region (global median was 87%). Primary care physicians bear responsibility for care in 5% of countries in the region.

SLIDE 22 – 23:

- Across most domains or healthcare workers, there were varying levels of shortages reported in the region.

- For all categories of kidney care workforce, less than half of countries reported shortages in these categories.

SLIDE 24:

- The median prevalence of nephrologists in Western Europe was 25.0 pmp (global median of 11.75 pmp). Liechtenstein had the highest density of nephrologists (100.7 pmp) while Ireland had the lowest (11.8 pmp).
- Overall, median prevalence of nephrology trainees was 6.0 pmp (highest across all regions); Italy had the highest density of nephrology trainees (49.1 pmp) while Germany had the lowest (0.69 pmp).

SLIDE 25 – 27:

- Estimates of the number of centres providing KRT was assessed across all countries.
- Median prevalence of HD centres in the region was 7.7 pmp. UK had the lowest density of HD centres (1.0 pmp) while Liechtenstein had the highest density of HD centres (25.2 pmp).
- Median prevalence of PD centres in the region was 2.73 pmp (compared to 1.57 pmp globally). Liechtenstein had the highest density of PD centres (25.2 pmp) while UK had the lowest (1.0 pmp).
- KT centres are available in 19 (86%) countries in the region; median prevalence of KT centres was 0.55 pmp and was highest in Iceland (2.8 pmp) and lowest in Switzerland (0.12 pmp).

SLIDE 28:

- All countries (100%) in the region where KT is available rely on a combined deceased and live KT program (compared with 71% globally).
- Most countries in the region (95%) had a national KT waitlist, only Spain uses a regional KT waitlist.

SLIDE 29:

- Capacity to provide adequate frequency of HD i.e., three times weekly for 3 – 4 hours per session, was available in all (100%) countries in the region (compared to 81% globally).
- Capacity to provide adequate PD exchanges i.e., three to four exchanges per day was available in 95% of countries (compared to 61% globally).

SLIDE 30:

- Home HD was available in 77% of countries. This region had the highest number and proportion of countries with HD services.

SLIDE 31 – 32:

- Conservative kidney management (CKM) established through shared-decision making was available in 95% countries (except in Andorra) (compared to 53% global median)
- Choice restricted CKM (where resource constraints prevent or limit access) was only available in 6 (27%) countries (compared to 39% global median).
- Choice restricted CKM (where no resource constraints prevent or limit access) was also available in 9 (41%) of countries (compared to 40% global median).

SLIDE 33 – 35:

- Multiple methods are used for funding cost of kidney care medications in this region.
- Medications for ND-CKD are funded publicly and free in 4 (18%) countries; however, most countries (55%) fund these medications through public funds with some fees. No country relies on solely private and out of pocket methods to fund these medications.
- Medications for dialysis patients (HD or PD) are free in 7 (32%) countries, while publicly funded with some fees was used in 10 (45%) countries.
- KT medications are funded through public funds and free in 8 (36%), through public funds with some fees in 8 (36%) of countries, and in 2 (9%) through a mix of private and public funds.

SLIDE 36:

- Although availability of official kidney registries varied across countries in the region, most countries in the region had a dialysis and KT registry.
- Only France, Iceland, Luxembourg, Norway, Sweden, and UK had a ND-CKD registry.
- Other registry forms (AKI and CKM) are largely unavailable in the region.

SLIDE 37-38: SUMMARY OF FINDINGS

In summary, the 2023 ISN-GKHA highlights several important findings for the Western Europe region.

KRT availability, access, and quality is high.

- All countries in the region have HD and PD while KT was not available in Andorra, Liechtenstein, and Luxembourg.
- Capacity to provide adequate frequency of HD i.e., three times weekly for 3 – 4 hours per session, was available in all (100%) countries.
- Capacity to provide adequate PD exchanges i.e., three to four exchanges per day was available in 95% of countries.
- Home HD was available in 77% of countries.

CKM is available and predominately chosen or medically advised.

- Conservative kidney management (CKM) established through shared-decision making was available in 95% countries.
- Choice restricted CKM (where resource constraints prevent or limit access) was only available in 6 (27%) countries.
- Choice restricted CKM (where no resource constraints prevent or limit access) was also available in 9 (41%) of countries.

Government funding for kidney care services and medication is low.

- Medications for ND-CKD are funded publicly and free in 4 (18%) countries.
- Medications for dialysis patients (HD or PD) are free in 7 (32%) countries (with some fees in 45% of countries).
- Medications for KT are funded publicly and free in 8 (36%) countries.
- Most countries cover the cost of acute dialysis, chronic HD, chronic PD, and KT medications through public funds and free at point of delivery. Only Liechtenstein use solely private and out-of-pocket methods to cover the cost of these services.

Most have registries for advanced kidney disease, few for CKD or AKI

- Availability of kidney registries varied across countries in the region.
- Almost all countries in the region had a dialysis and KT registry.

- Only France, Iceland, Luxembourg, Norway, Sweden, and UK had a ND-CKD registry.
- Other registry forms (AKI and CKM) are largely unavailable in the region.

Some workforce limitations are present.

- The median prevalence of nephrologists in Western Europe was 25.0 pmp (global median of 11.75 pmp). Liechtenstein had the highest density of nephrologists (100.7 pmp) while Ireland had the lowest (11.8 pmp).
- Overall, median prevalence of nephrology trainees was 6.0 pmp (highest across all regions); Italy had the highest density of nephrology trainees (49.1 pmp) while Germany had the lowest (0.69 pmp).
- For all categories of kidney care workforce, less than half of countries reported shortages in these categories.

Moderate advocacy for kidney disease in the NIS and Russia.

- Advocacy groups for CKD, kidney failure and KRT remains low in the region.

SLIDE 39-40: IMPLICATIONS

There are important implications to consider. Based on these survey findings, key recommendations to drive future activities for optimizing kidney care globally are proposed:

Increase health care financing for kidney failure prevention and management.

- While resource limitations are an obvious barrier, focusing on preventing kidney failure through appropriate hypertension and diabetes management may be more cost-effective overall. Government funding to cover medication costs may allow more patients to treat earlier stage CKD, thereby preventing the need for more costly kidney failure treatment and the obvious burden this has on patients wellbeing.

Address workforce shortages through multidisciplinary teams and telemedicine

- Shortages of nephrologists, surgeons, dialysis nurses, and other key allied health professionals were noted across most countries. Similarly, simply producing more nephrologists may not be feasible or appropriate, and sharing the workload across multiple providers will not only promote the use of multidisciplinary teams but further, allow for more and better care delivery across more patients. Telemedicine may help particularly in addressing gaps in care

among rural patients, and enhancing capacity through training programs such as ISN Fellowship, visiting ambassador programs, etc.

Incorporate the collection and reporting of quality indicators in kidney failure care.

- Measuring and reporting on key quality indicators is an important driver in healthcare improvement. Ensuring facilities are supported with information systems that allow for the systematic measurement and reporting of indicators is a first key step to increasing the rate of monitoring among countries. Further, understanding if or how the collection and reporting of indicators are being used to improve care is needed.

Expand health information systems to prevent and manage kidney failure.

- Similarly, good quality HIS are vital for kidney disease management within a country. A lack of data on disease prevalence, incidence, resource use, and quality of care limits government and provider ability to monitor and evaluate the care provided as well as predicts appropriate resource allocation so that sufficient facilities, medicines, and healthcare professionals are trained and available.

Promote kidney failure prevention and treatment by implementing policies, strategies, and advocacy, and mitigating barriers.

- Lastly, policies and strategies are important for consistent approaches within a country for optimal care delivery, as well as for accountability, leadership, and knowledge exchange. Advocacy may help promote the increase of government prioritization and further, public awareness of how to prevent and manage kidney disease. Without acknowledging and mitigating barriers, it would be a challenge to achieve of successes out of these recommendations. Competing priorities and needs (for example, clean water supply and basic sanitation, maternal and child health, malnutrition, etc.).