2019 GKHA REGIONAL SLIDES PRESENTATIONS

NIS (NEWLY INDEPENDENT STATES) & RUSSIA

SLIDE 1:

<opening slide>

SLIDE 2:

- Overview of presentation
    - Aim of GKHA
    - Methods (desk research and survey)
    - Key Results
    - Summary and implications

SLIDE 3:

- The impetus for the Atlas project came from the fact that we don't have any consolidated reliable data on the current status of kidney care either globally or regionally. In order to improve kidney care worldwide, we need to document where we are and where we need to go to monitor and motivate change.

- The vision of the Atlas is to achieve optimal and equitable kidney care worldwide. To accomplish this, we need to identify and close gaps related to the capacity or equity of kidney care. Hence, the 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 GKHA is to improve the understanding of inter- and intra-national 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.

SLIDE 4:

- To achieve this mission, the strategy of the GKHA is to collect data using standardized indicators that measure kidney care delivery to provide evidence-based recommendations to relevant stakeholders.
- First in 2016, the ISN conducted the first-ever survey to document the baseline capacity of kidney care. This allowed for the establishment of benchmarks overall, within ISN regions, and by World Bank income group. This was an important first step to understand where we are globally, with respect to the capacity and equity of kidney care delivery.
- The survey was repeated again in 2018 and will be every 4 years moving forward to monitor progress so we can work toward improving the areas needing change.
- Today's discussion will focus on the 2018 results, which were published in the 2019 Atlas.

SLIDE 5:

- Two key methods were used to produce the atlas: a desk research component, which involved searching literature and other data sources to calculate estimates; and a key opinion leader survey, whereby three leaders from each country (a nephrology society leader, a leader of a consumer representative organization, and a policymaker) submitted details on national kidney care capacity and practices with a specific focus on kidney disease.
- The online questionnaire was completed in July-September 2018. Stakeholders from 182 countries were invited to participate.
- Approximately 3 stakeholders from each country completed the survey. Any discrepancies within a country were resolved through follow-up meetings with regional and country leaders.

SLIDE 6:

- The survey followed a framework developed by the World Health Organization 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 GKHA models this framework to similarly aim to achieve these objectives, specific to kidney care.

SLIDE 7:

- The 2019 survey received input from 160 of the 182 invited countries, equaling a response rate of 88%.
- This covered nearly 99% of the world's population.
- An additional 36 countries participated in the 2019 survey compared to the 2017 survey.

SLIDE 8:

- The GKHA reports overall global results for each indicator, and as well separates the data by ISN region and income group.
- Therefore, we are 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 9:

- This talk focuses on the region of NIS & Russia.
- There are 11 countries in the region: 6 are lower-middle and 5 are upper-middle.

SLIDE 10:

- At the time of the survey, there were 358,093,112 people living in the 11 countries in NIS & Russia. The average country population was 10,046,516
- The median GDP was 179 billion
- On average, 6.3% of the GDP was spent on healthcare (i.e., total health expenditure)

SLIDE 11:

- Approximately 11% (11.26%) of the population in NIS & Russia has CKD, which is comparable to the global average (10%).
- Russia has the highest prevalence (19.23%) and Tajikistan has the lowest (7.4%).
- Just over 1% of all deaths in the region are attributable to CKD, highest in Turkmenistan (nearly 2%).
- 21% of the population has obesity, ranging from only 12.6% in Tajikistan to 26.6% in Belarus.
- 26.3% have increased blood pressure and just over 21% (21.3%) smoke.

SLIDE 12:

- Data availability on the burden of end stage kidney disease is low in NIS & Russia. Only 4 countries have data on the prevalence and incidence of treated ESKD (transplantation or dialysis).
- The country with the highest prevalence of chronic dialysis (either peritoneal or hemodialysis) was Russia with 245 people receiving dialysis per million population. The lowest was Ukraine with 161 pmp.
- The overall prevalence of chronic HD was substantially higher than for PD. In this region, the average prevalence of chronic HD was 162 pmp compared to only 10.8 for PD.

SLIDE 13:

- Data on kidney transplantation in NIS & Russia is also low. While 7 of the 11 countries have data on the incidence of transplantation, only 3 have data on the overall prevalence.
- The overall incidence of kidney transplantation (7 countries) was 5.38 pmp. The overall prevalence (3 countries) was 26 pmp.
- There was a much higher rate of living donation (2.94 pmp) compared to deceased donation (0.13 pmp).

SLIDE 14:

- Annual costs of kidney replacement therapy were estimated for each country with data available. Only 3 countries (Belarus, Georgia, and Russia) had data on the costs of dialysis (HD or PD) and none for transplantation.
- The estimated annual cost of HD in NIS & Russia was USD 5,876. The estimated cost for PD was higher, at USD 10,064 per year.
- The costs for Russia were more than twice what was estimated for Belarus and Georgia.

SLIDE 15:

- Responses were received from 9 of 11 countries in NIS & Russia (81.8%) representing 96% of the region's population.

SLIDE 16:

- Scorecards were created for each country so they could compare results with other countries in the same area as well as between the first survey in 2017 and the follow-up two years later in 2019.
- Green represents availability, red represents not available and grey represents unknown or not applicable if they didn't complete a survey that year.
- Hemodialysis was available in all countries.
- Six of the 9 countries reported that peritoneal dialysis was available (not available in Armenia or Tajikistan, no answer for Uzbekistan).
- Kidney transplantation was available in seven countries, no response was provided for Ukraine or Uzbekistan.
- Only 3 countries (Azerbaijan, Kazakhstan, and Russia) provide funding for dialysis medications.
- Five countries provide funding for transplantation medications (Tajikistan, Ukraine, and Uzbekistan do not).
- Only 1 country (Belarus) reported an advocacy group for CKD (Azerbaijan, Kazakhstan, Russia, Ukraine, and Uzbekistan did not answer).
- Six countries reported an advocacy group for ESKD, Azerbaijan reported no group, and 2 countries did not answer.
- Only 1 country (Azerbaijan) reported an advocacy group for AKI.

SLIDE 17:

- Five countries in NIS & Russia reported that non-dialysis CKD care was funded by the government: 4 exclusively and 1 with some fees at the point of care.
- Two (Armenia and Georgia) reported that non-dialysis CKD care was funded solely on a private and out-of-pocket basis.

- Russia reported a mix of public and private sources and Tajikistan utilizes multiple sources (government, non-government organizations, and communities).

SLIDE 18:

- 8 of the 9 countries in the region reported that KRT was funded by the government: six exclusively and 2 with some fees at the point of care.
- This is much higher than what was reported globally, where 67% of countries in NIS & Russia exclusively fund KRT, compared to 43% worldwide.

SLIDE 19:

- All 9 countries reported that nephrologists are primarily responsible for ESKD care.
- Two countries (Georgia and Tajikistan) also reported that primary care providers share the responsibility and Tajikistan also reported that health officers and extension workers share the workload.
- No countries in NIS & Russia reported that multidisciplinary teams are primarily responsible for ESKD care, as opposed to the 19% of countries worldwide.

SLIDE 20:

- Workforce shortages, highlighted in red, were moderately reported in NIS & Russia.
- Four countries (Azerbaijan, Russia, Tajikistan, and Ukraine) reported a shortage of nephrologists.
- Overall workforce capacity appeared to be highest in Armenia, Belarus, Georgia, and Ukraine.
- No information was provided for Uzbekistan.

SLIDE 21:

- Worldwide, the median number of nephrologists is 9.95 nephrologists per million population.

- In NIS & Russia, the average density was: 14.41 pmp (8 countries, no response for Uzbekistan). Tajikistan reported the lowest with 1.74 nephrologists per million population and Georgia had the highest with 28.42 pmp.
- The global median density of trainees is 1.4 per million population. In NIS & Russia, it was 1.6 (6 countries, no data for Belarus or Uzbekistan). The lowest density was reported in Ukraine (0.11 trainees pmp) and the highest was in Azerbaijan with 49.77 pmp.

SLIDE 22:

- Respondents were asked to report the number of centres that provide chronic hemodialysis in their country. All countries in NIS & Russia reported that chronic HD services were available, data on the number of centres pmp were available for all but one (Uzbekistan). Of these 8 countries, the median chronic HD centre density was 3.72 pmp. This was slightly under the global average of 4.5 centers per million population.
- Tajikistan reported the lowest density of 0.23 centres pmp and Georgia reported the highest with 5.68 pmp.

SLIDE 23:

- Respondents were also asked to report the number of centres that provide chronic peritoneal dialysis in their country.
- In NIS & Russia, 6/9 countries reported that chronic PD services were available. Of these 6 countries, 5 had data on the centre density (not available in Ukraine). The median PD centre density in NIS & Russia was 0.41 centres pmp. This is much lower than the global average, which found a median density of 1.3 PD centers pmp.

SLIDE 24:

- Respondents were also asked to report the number of centres that provide kidney transplantation in their country. 7 of the 9 countries reported that transplantation was available, 2 countries (Ukraine and Uzbekistan) did not respond.

- Globally, among the countries with kidney transplantation services, the average is 0.4 centers pmp. In NIS & Russia, the median density was 0.33 centres pmp. Belarus reported the highest with 0.73 pmp and Tajikistan had the lowest with 0.23 pmp.

SLIDE 25:

- Of the 7 countries in NIS & Russia that reported kidney transplantation services, most 4; 57%) rely on live donation only and 3 (Belarus, Kazakhstan, and Russia) use a combination of live and deceased donors.
- This is opposite to what was observed worldwide, as only 28% of countries reported live donation only and 72% rely on a combination of sources for organ donation.
- Azerbaijan and Belarus have national waitlists, Kazakhstan and Russia have regional waitlists, and 3 countries (Armenia, Georgia, and Tajikistan) don't have a waitlist for transplantation.

SLIDE 26:

- All countries in NIS & Russia reported that chronic HD was available, and most have a center-based service that involves treatment 3x week for 3-4 hours. Only one country (Tajikistan) reported HD wasn't delivered 3x week for 3-4 hours. Two countries did not respond to the question. The quality of HD delivery, in terms of treatment frequency, in NIS & Russia was higher than the global average, which reported that 77% of countries offer adequate frequency for HD services.
- 6 countries reported that chronic PD services were available. Of these, 3 (Belarus, Georgia, and Russia) reported an ability to do adequate exchanges 3-4 times per day, or equivalent cycles on automated PD. One country (Azerbaijan) responded 'Unknown' and Kazakhstan does not generally offer PD at this frequency.
- This is similar to the global average, which reported that 58% of countries are able to generally offer adequate PD exchange.

SLIDE 27:

- Home hemodialysis was not generally available in any countries in NIS & Russia, as opposed to 13% of countries worldwide. Generally available means that home hemodialysis training is offered in at least 50% of dialysis centres.

- 5 countries in the region stated that home hemodialysis is never available, 2 did not know (Armenia and Tajikistan), and one (Uzbekistan) did not respond to the question.

SLIDE 28:

- Conservative kidney management is a treatment option for ESKD, which does not include dialysis or transplantation.
- There are 2 types of conservative kidney management: choice-restricted or medically advised. Choice-restricted means that patients opt for CKM due to limitations in resources, whereas medically advised, or chosen, is a deliberate choice of CKM as it is likely the better treatment option for an individual rather than KRT.
- In NIS & Russia, four countries (Armenia, Azerbaijan, Georgia, and Tajikistan) reported that CKM was available. Belarus, Kazakhstan, and Russia reported it was not available, and 2 countries (Ukraine, Uzbekistan) did not respond to the question.
- Overall, the availability of CKM was lower in NIS & Russia (4/7; 57%) compared to over 80% worldwide.

SLIDE 29:

- Registries were moderately available for dialysis and transplantation, but rarely for CKD or AKI.
- Five countries (Azerbaijan, Belarus, Georgia, Russia, and Tajikistan) reported a registry for dialysis and transplantation, and Armenia reported a registry for transplantation (not for dialysis).
- Only 2 countries (Azerbaijan and Tajikistan) have a registry for non-dialysis CKD; however, this is still higher than the 12% reported globally.
- Only one country (Azerbaijan) reported a registry for AKI.

SLIDE 30:

In summary, the 2019 GKHA highlights several important findings for Africa.

KRT availability, access, and quality is high

- HD was available in all countries in NIS & Russia and 6 of 8 countries in the region reported that chronic PD was available.
- While all countries offer chronic HD, access to care and quality of treatment was limited. Center-based service that involves treatment 3x week for 3-4 hours was generally available in 86% (6/7) of countries in the region.
- Home hemodialysis is generally not available in any country within NIS & Russia.
- 3 countries in NIS & Russia (38%) reported an ability to do adequate exchanges 3-4x day.
- Seven countries responded to the question about transplantation availability, of those all reported that kidney transplantation services were available in their country. Of these 7 countries, 4 reported a waitlist.

Conservative kidney management is limited

- Globally, over 80% of countries reported that CKM is available. In NIS & Russia, only 57% (4/7) of countries offer CKM services.

Government funding for kidney care is low

- Only 3 of 9 (33%) countries in NIS & Russia reported that medications for dialysis patients are funded by the government.
- Similarly, fewer than half (5/9; 55%) reported that medications for kidney transplant patients are funded by the government.
- However, CKD care (i.e., non-medications) had better coverage. Five countries reported that non-dialysis CKD care was funded by the government, and 8 that KRT was funded by the government. This is much higher than what was reported globally, which showed that only 43% of countries worldwide have KRT services exclusively funded by the government.

Few registries for non-dialysis CKD and AKI, overall higher than global average

- Only 2 countries reported a registry for CKD and one for AKI
- Just over 70% of the countries in NIS & Russia reported a registry for CKD, which was slightly higher than the 66% reported worldwide.

- Over 85% of countries in NIS & Russia have a transplant registry, which similarly his higher than the 57% reported worldwide.

Moderate workforce limitations, high densities of nephrologists and trainees

- Despite that 4 countries in NIS & Russia reported a shortage of nephrologists, the density of nephrologists was higher than the global average. Of the countries in the region, the median density was over 14 nephrologists pmp, compared to the global average of 10 pmp. Georgia reported the highest density, with over 28 nephrologists pmp.
- Nephrology trainee density was similarly high in the region. Worldwide, there are 1.4 trainees per million population. In NIS & Russia, the median density was 1.6 pmp. No countries reported 0 trainees.
- Few shortages were listed for other providers essential for ESKD care. For example, only 2 countries (Azerbaijan and Tajikistan) reported a shortage of dialysis nurses. Only 2 countries (Georgia and Tajikistan) reported that primary care physicians also share the responsibility of ESKD care delivery.
- Therefore, increasing the workforce capacity through other providers such as nurses, pharmacists, dietitians, may help expand on care delivery.
- Further, providing primary care physicians with accessible guidelines on how to prevent and treat kidney disease is important.

Little advocacy for kidney disease in NIS & Russia, particularly for CKD and AKI

- Advocacy groups were minimal in both regions for AKI, CKD, and ESKD.
- Only 1 country (Belarus) reported an advocacy group for CKD and one country (Azerbaijan) reported an advocacy group for AKI.
- Advocacy for CKD was more common: 6 countries reported an advocacy group for ESKD.
- Increasing the awareness of kidney disease in the public domain, as well as with other nonprofits devoted to global health, may help promote prioritization of kidney disease.
- Highlighting the gaps of care, with respect to quality and equity, coupled with the burden and consequences of untreated ESKD may help improve advocacy, particularly in areas such as Africa with limited resources.

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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 ESKD prevention and management

- While resource limitations are an obvious barrier, focusing on preventing ESKD 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 ESKD 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 ESKD 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 ESKD

- 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 ESKD 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.) represent formidable barriers that can limit implementation of the recommended strategies in the region.

SLIDE 32:

- Each Atlas report is available for free download at the ISN webpage.
- To download a copy, please visit the ISN webpage.