Apollo Dial DB: Characteristics of Dialysis Patients across Major World Regions



Melanie Wolf¹, Yue Jiao², Kaitlyn Renee Croft¹, Marco Rancati³, Anke Winter¹, Milind Nikam⁴, Stefano Stuard¹, Adrian Marcos Guinsburg⁵, Jeffrey Hymes², Kirill Koulechov¹, Stuart McGuigan², Len Usvyat², John Larkin², Franklin W. Maddux², Apollo DB Team

¹Fresenius Medical Care, Germany, ²Fresenius Medical Care, United States, ³Fresenius Medical Care, Italy, ⁴Fresenius Medical Care, Singapore, ⁵Fresenius Medical Care, Argentina

Introduction

Large amounts of longitudinal data are captured during dialysis. This data can be used for secondary purposes to understand and advance care models, yet secondary data is often not available on a multinational level due to challenges in harmonizing data from different clinical systems and need to adhere to various data protection regulations in the world. Apollo Dial DB is an anonymized dialysis database that combines and harmonizes real-world data from a global provider for research and quality improvement activities worldwide.



Apollo Dial DB captures data from

Longitudinal observation level data on

Data from different electronic systems is





harmonized and anonymized based on logic established in a re-identification risk assessment. Data is consolidated and stored in a central cloud environment. The first version of the dataset contains data on more than 360 variables from January 2018 – March 2021 and will be updated periodically.

Results

Table 1: Apollo Dial DB Characteristics by World Region.

Data are shown as counts (n), proportions (%), or mean values by major world region.





			EMEA						AP				NA	LA
Parameter		EMEA	Eastern Europe	Southern Europe	Western Europe	Northern Europe	South Africa	AP	Eastern	astern Southeast Asia Asia	Western Asia	Oceania	Northern	Latin
									Asia				America	America
Patient [n]		75,396	42,702	19,285	3,742	7,105	2,562	25,231	2,849	8,294	12,461	1,627	404,395	38,147
Country [n]		22	7	7	2	5	1	12	2	5	4	1	1	5
Female [%]		40.02	42.98	36.02	36.42	35.44	38.68	42.25	46.30	44.91	39.75	40.75	42.26	40.45
Ethnicity [%]	White	62.43	75.16	57.19	1.63	48.14	18.03	16.25	0.00	0.13	26.16	50.89	54.81	31.80
	Black	1.71	0.11	0.49	0.16	2.43	37.78	0.05	0.04	0.04	0.06	0.00	27.19	2.29
	Asian	0.25	0.12	0.37	0.00	0.84	0.16	15.30	67.74	21.52	0.08	8.36	2.94	0.23
Modality* (≥1 treatment/patient) [%]	HD	67.65	69.64	70.04	89.47	54.05	22.29	87.58	94.49	95.99	86.15	43.58	93.93	87.62
	HDF	67.67	61.62	71.78	60.29	88.29	91.30	25.55	10.60	11.54	32.45	70.37	0.00	22.59
	PD	3.20	5.49	0.04	0.24	0.01	1.87	0.01	0.46	0.00	0.02	0.00	13.22	17.34





* Modality use considered the number of unique patients who used the modality one or more times during the observation period.

HD: Hemodialysis; HDF:Hemodiafiltration; PD: Peritoneal Dialysis;

Most patients were 45-64 years old (yo) at dialysis start in all regions (31.9-50.4%) except Western Europe where most patients started dialysis at \geq 75 yo (32.7%).



A higher proportion was 18-44 yo in LA (22.4%), South Africa (22.4%), Southeast Asia (20.3%) and Western Asia (22.1%). A higher proportion was ≥75 yo in Southern Europe (28.9%), Western Europe (32.7%), and Oceania (23.8%).



A higher proportion is 170-179 cm tall In EMEA regions (26.6-33%), Western Asia (26.3%), Oceania (30.9%), and NA (30.2%). A higher proportion is 150-159 cm tall in Eastern Asia (37.2%), Southeast Asia (32.8%) and LA (25.8%).

Conclusion



Descriptive analyses of the **Apollo Dial DB show** several **regional differences**.



These characteristics **act as benchmarks** for the nephrology community.



It gives opportunities for investigators to conduct

global analytics and advance the state of the art.

Most of the patients are between 160-169 cm tall overall regions (32.5-42.2%).

