



Dialysis Opinions 2008

Focus on Innovation

Dialysis Opinions collected by Gambro in connection with the following international meetings with dialysis and nephrology focus, held during 2008:
ERA-EDTA, EDTNA-ERCA and ASN.

Focus on Innovation

The Dialysis Opinion surveys have been conducted at major nephrology and dialysis congresses since 1992. Each year a different theme is addressed; the selected topic being characterized by missing or weak evidence and lack of consensus. The purpose of the survey is not to investigate facts or current practice, but simply to document the personal opinion of nephrology professionals on issues of special interest and relevance.

At Gambro we have a long record of innovative technology in the entire field of dialysis therapy – acute as well as chronic, self-care as well as in-center care. This covers a wide range of technology, and for the future we want to focus our efforts and resources on areas where innovations are most urgently needed. Together with the nephrology community we therefore would like to identify limiting components and critical steps towards providing the best possible care for dialysis patients.

A questionnaire titled “Focus on Innovation” was designed around these issues and it was distributed at the ERA-EDTA Congress in Stockholm, the EDTNA-ERCA Conference in Prague and the ASN Meeting in Philadelphia during 2008. We collected 5 357 responses and the result is shown on the following pages.

Among the majority answers the desire to have more biocompatible membranes in HD/HDF and more biocompatible fluids in PD is noteworthy. Water treatment issues and individualized composition of fluids are highlighted for HD/HDF. Regarding treatment mode, innovations to facilitate both more frequent sessions and self-care dialysis are given priority. Among the discussed components of dialysis, vascular access is considered to be in greatest need of an innovative approach, and all aspects of vascular access need to be addressed – ease of connection as well as risk of infection and stenosis.

On behalf of Gambro, I want to express our thanks to all respondents for their participation in the Dialysis Opinion survey 2008. When setting the priorities for our future R&D activities, it is of great value for us to know which areas of dialysis therapy are considered to be in greatest need of an innovative approach.

Lund in April, 2009



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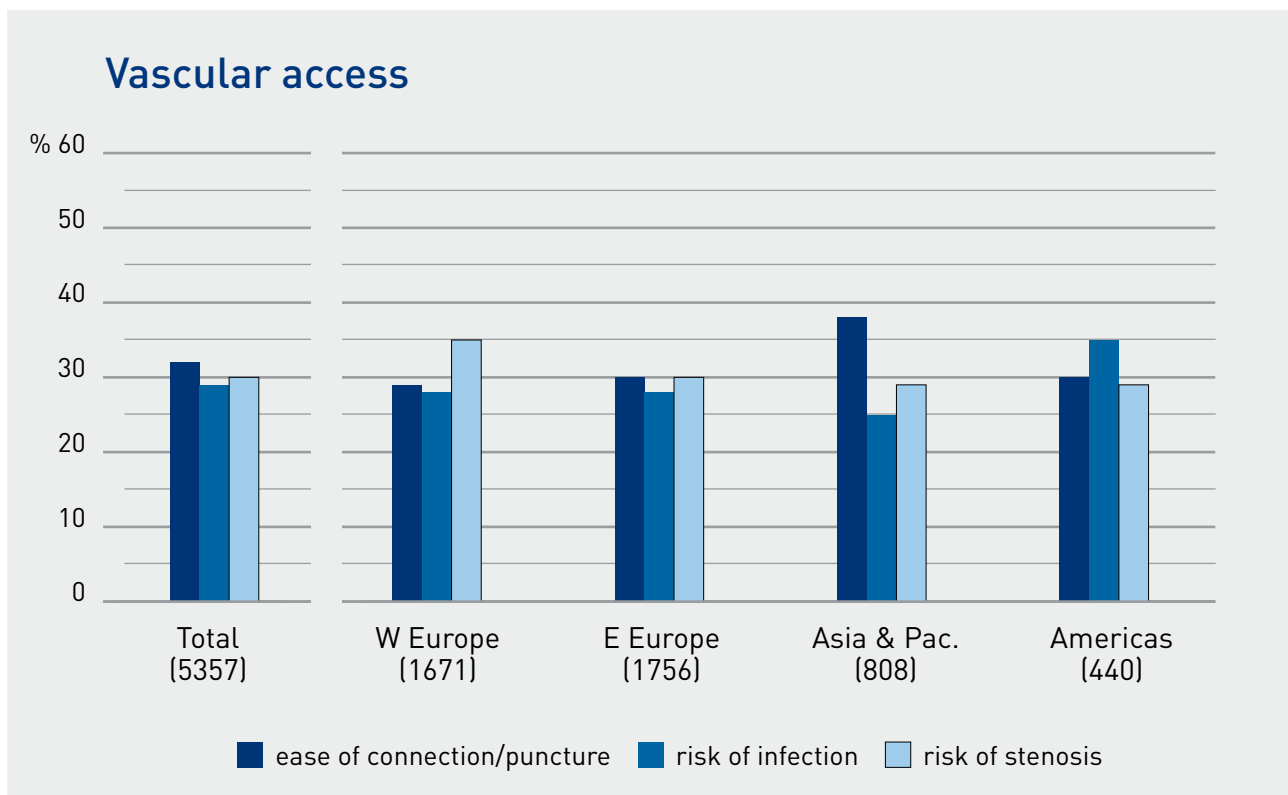
Focus of innovations on vascular access

Question:

The vascular access is considered the Achilles' heel of extracorporeal therapies. In order to address the most important problems connected with blood access in dialysis patients, which area should primarily be the focus of future innovations, in your opinion?

Answer:

	Nurses	Physicians	Total
ease of connection/puncture	436 28%	986 34%	1689 32%
risk of infection	441 29%	749 26%	1546 29%
risk of stenosis	474 31%	949 33%	1629 30%
other /no opinion	196 12%	195 7%	493 9%
total	1547	2879	5357



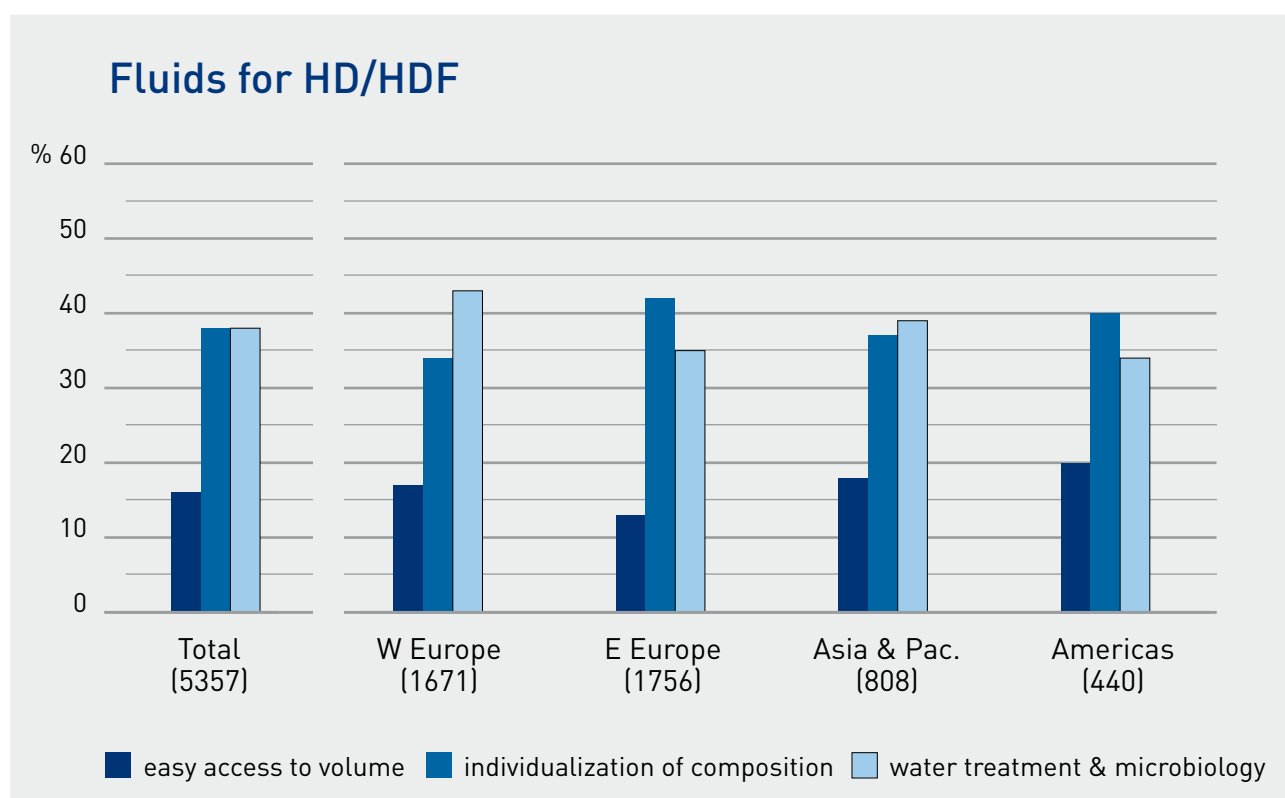
Priority for innovations on fluids for HD/HDF

Question:

In hemodialysis/hemodiafiltration, acute as well as chronic, which fluid-related issue should have priority for future innovations, in your opinion?

Answer:

	Nurses	Physicians	Total
easy access to sufficient volume	248 16%	443 15%	869 16%
individualization of composition	478 31%	1238 43%	2023 38%
water treatment & microbiological quality	657 42%	1048 36%	2041 38%
other /no opinion	164 10%	150 5%	424 8%
total	1547	2879	5357



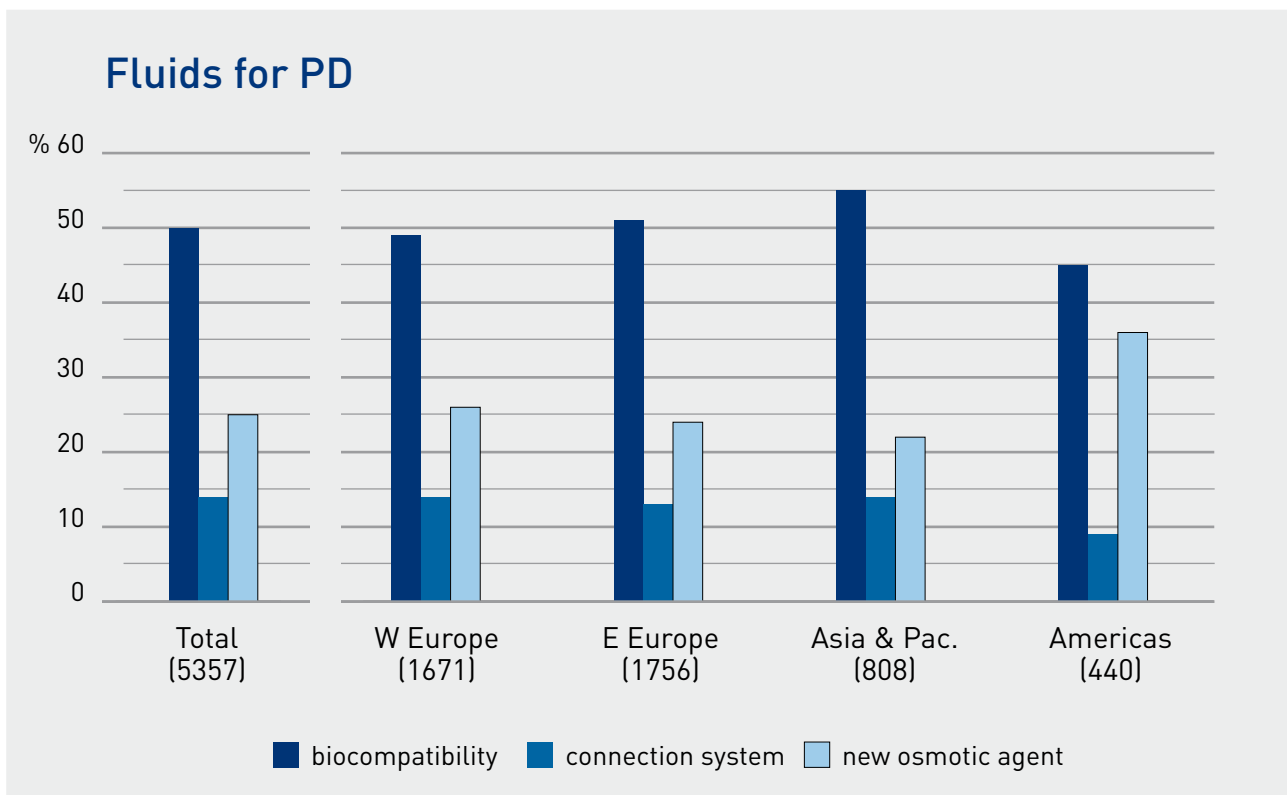
3 Priority for innovations on fluids for PD

Question:

In peritoneal dialysis, which issue related to the fluid should have priority for future innovations, in your opinion?

Answer:

	Nurses	Physicians	Total
biocompatibility, i.e. buffer source, GDP, pH	714 46%	1547 54%	2662 50%
connection system	279 18%	282 10%	752 14%
new osmotic agent	281 18%	879 31%	1347 25%
other /no opinion	273 18%	171 6%	596 11%
total	1547	2879	5357



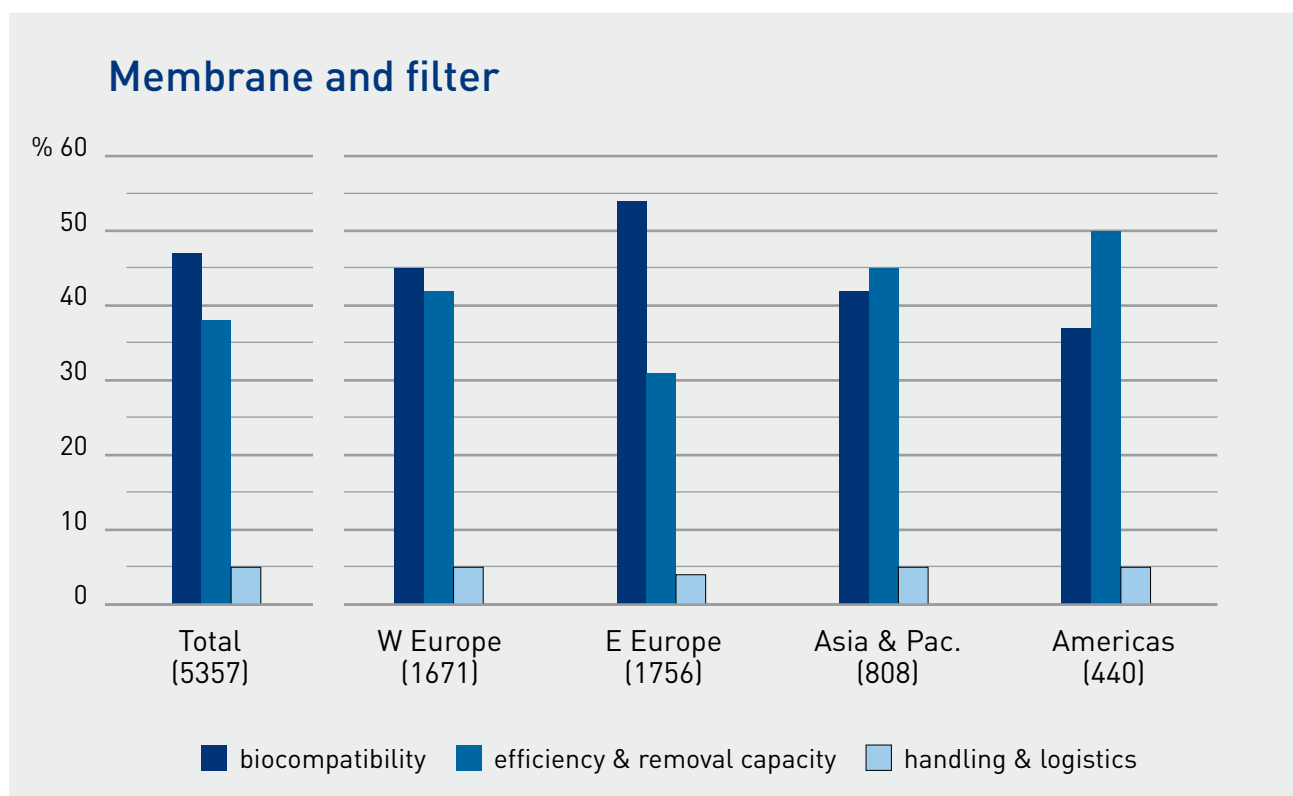
Priority for innovations on membrane and filter

Question:

The membrane separates the blood from the fluid and the unremovable from the removable solutes. Which issue related to the membrane and the filter should have priority for future innovations, in your opinion?

Answer:

	Nurses	Physicians	Total
biocompatibility	724 47%	1414 49%	2523 47%
efficiency & removal capacity	539 35%	1162 40%	2050 38%
handling & logistics	95 6%	114 4%	271 5%
other /no opinion	189 12%	189 6%	513 10%
total	1547	2879	5357



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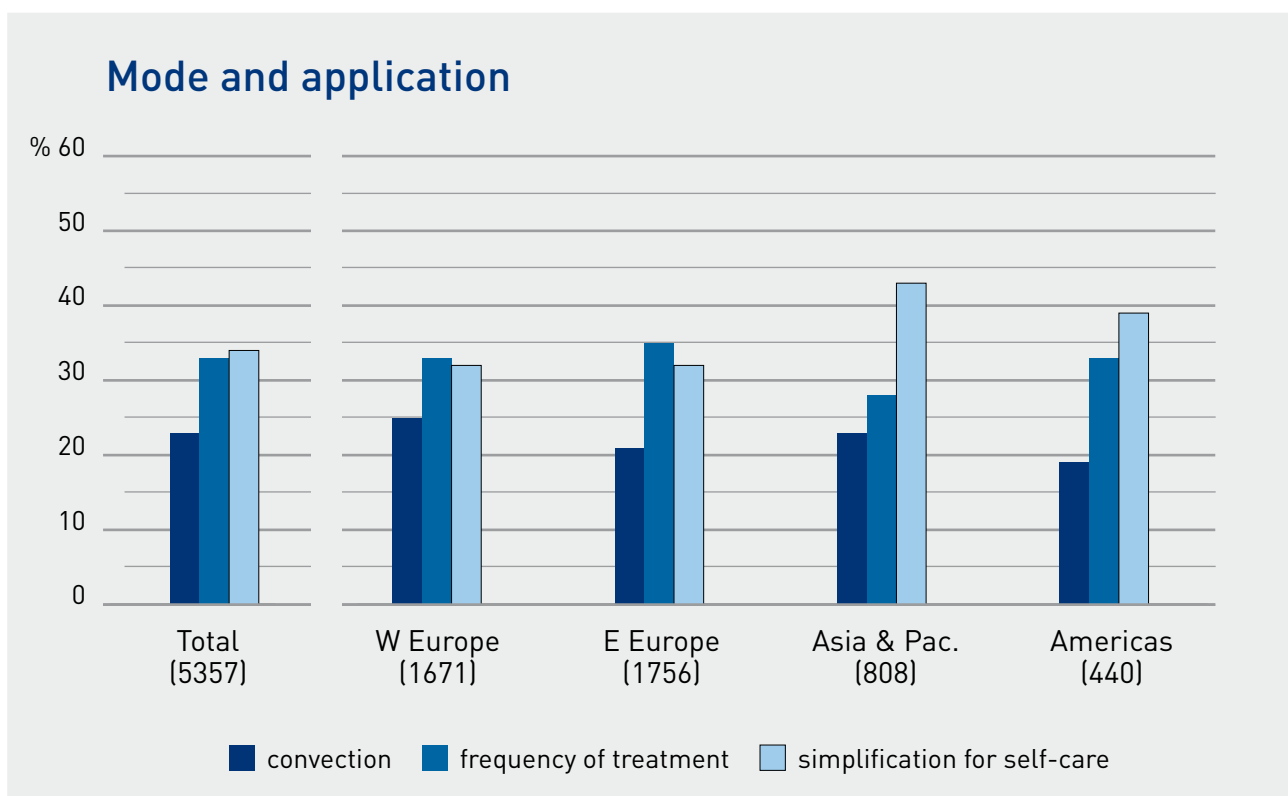
Focus of future development on mode and application

Question:

The benefits of a dialysis therapy are to a large extent determined by the application of the different components - how, how often and for how long they are used. Which aspect of contemporary dialysis should primarily be the focus of further development, to allow for improved quality and outcome, in your opinion?

Answer:

	Nurses	Physicians	Total
convective transport	260 17%	744 26%	1206 23%
frequency of treatment	570 37%	915 32%	1773 33%
simplification to enable self-care	505 33%	1029 36%	1848 34%
other/no opinion	212 13%	191 7%	530 10%
total	1547	2879	5357



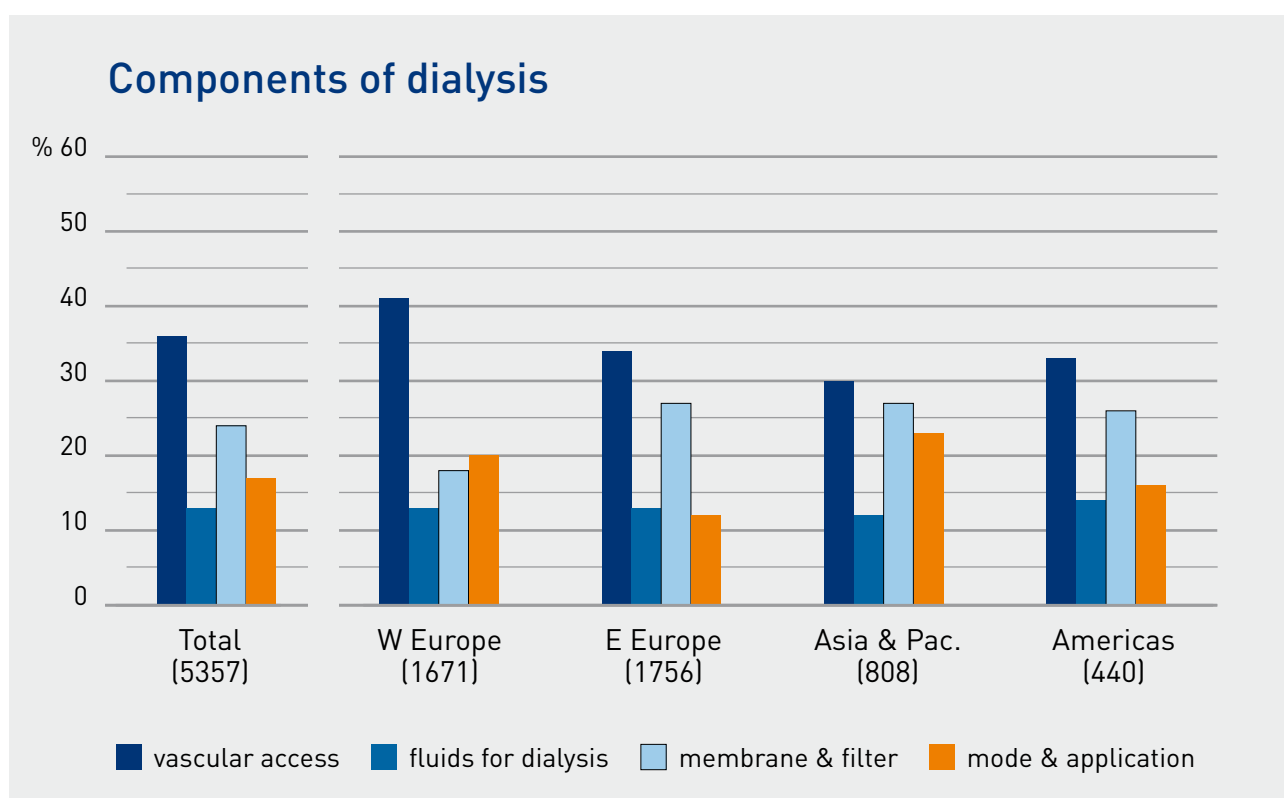
Dialysis component in greatest need of innovation

Question:

Of the four components referred to above, which should most urgently be the focus of innovations, in your opinion?

Answer:

	Nurses	Physicians	Total
the vascular access	653 42%	1005 35%	1919 36%
the fluids for dialysis	200 13%	342 12%	682 13%
the membrane & filter	292 19%	744 26%	1275 24%
the mode & application	207 13%	574 20%	936 17%
no opinion	195 13%	214 8%	545 10%
total	1547	2879	5357



Dialysis Opinion responders 2008

Congress	N	Physicians %	Nurses %	Europe %	Asia & Pac. %	Americas %
ERA-EDTA	2963	78	3	64	13	5
EDTNA-ERCA	1538	3	82	85	5	2
ASN	618	82	2	37	17	40
other	238	11	75	0	95	0
TOTAL	5357	54	29	64	15	8

Background information

Country of origin

West Europe 1671

Italy	545
Spain, Portugal	256
UK, Ireland	204
Germany, Austria & Switzerland	190
Nordic countries	185
France	146
BeNeLux	140

East Europe 1756

Greece	331
Czechia, Slovakia	277
Poland	216
Turkey	191
Balkan countries	159
Bulgaria, Romania	154
Hungary	107
Baltic countries	100

Middle East, Southeast &

South Mediterranean 427

Algeria, Morocco & Tunisia	123
SE Mediterranean	103
Arabian Peninsula	85
Egypt	85

Asia & Pacific Region 808

Australia & New Zealand	250
India	147
Thailand	97
China	69

Americas 440

USA	207
South America	122
Canada	64
Central America	47

Rest of the world 255

Total 5357

Dialysis experience

<1 year	333	6%
1-5 years	952	18%
6-10 years	1039	19%
11-20 years	1411	26%
> 20 years	1102	21%
no answer	520	10%

Profession

Physician	2879	54%
Nurse	1547	29%
Other	931	18%

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