

INTERNATIONAL REPORT ON Organ Donation and Transplantation Activities 2022

www.transplant-observatory.org
October 2023



Global activity in organ transplantation Estimations 2022

Kidney	Liver	Heart	Lung	Pancreas	S. bowel
102 090	37 436	8 988	6 784	2 026	170

≈ 157 494 solid organ transplants

≈ 9.1% increase vs 2021

≤ 10% of global needs

39 % living kidney transplants

24% living liver transplants

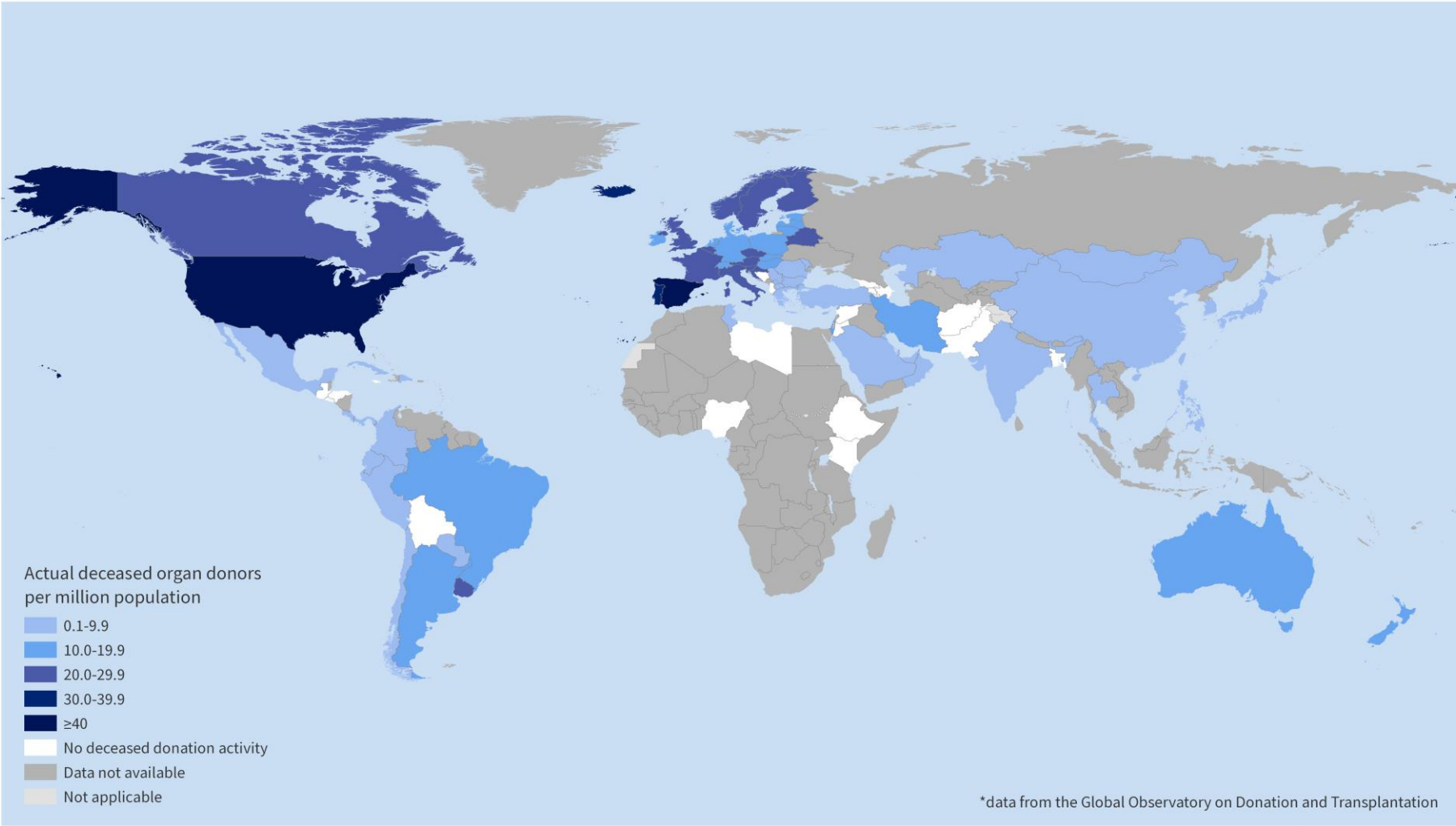
41 792 deceased donors (32 248 DBD and 9 544 DCD donors)*

Information of 91 Member States on organ transplantation activities (75% of the global population)



DECEASED DONATION ACTIVITY

Actual donors from deceased persons, 2022*



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Data Source: Global Observatory on Donation and Transplantation
Map Production: WHO GIS Centre for Health, DNA/DDI
Map Creation Date: **04 September 2023**

Deceased donation pmp in relation to the Human Development Index (HDI) 2022

WHO Regions:

African Region (AFR)

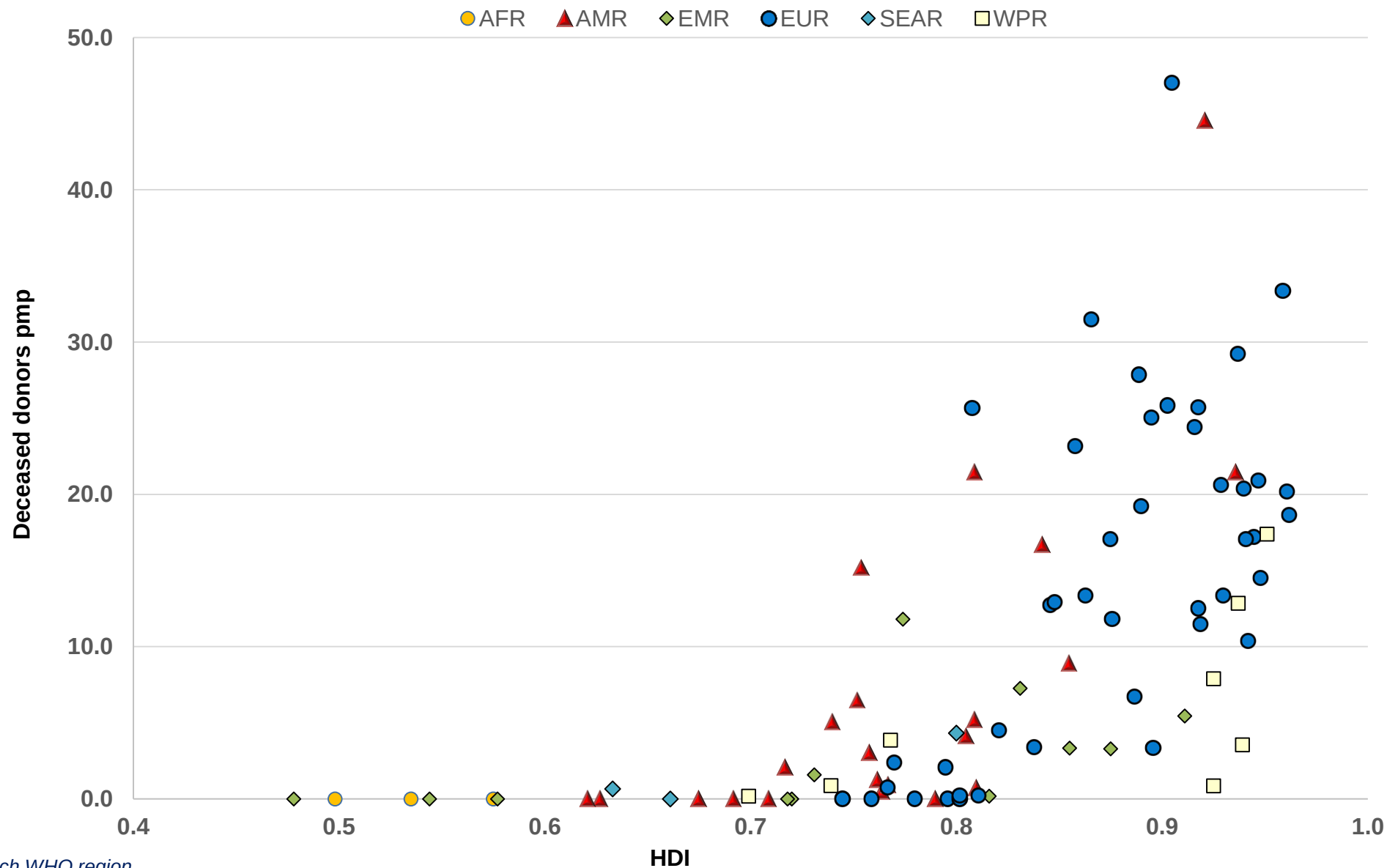
Region of the Americas (AMR)

Eastern Mediterranean Region (EMR)

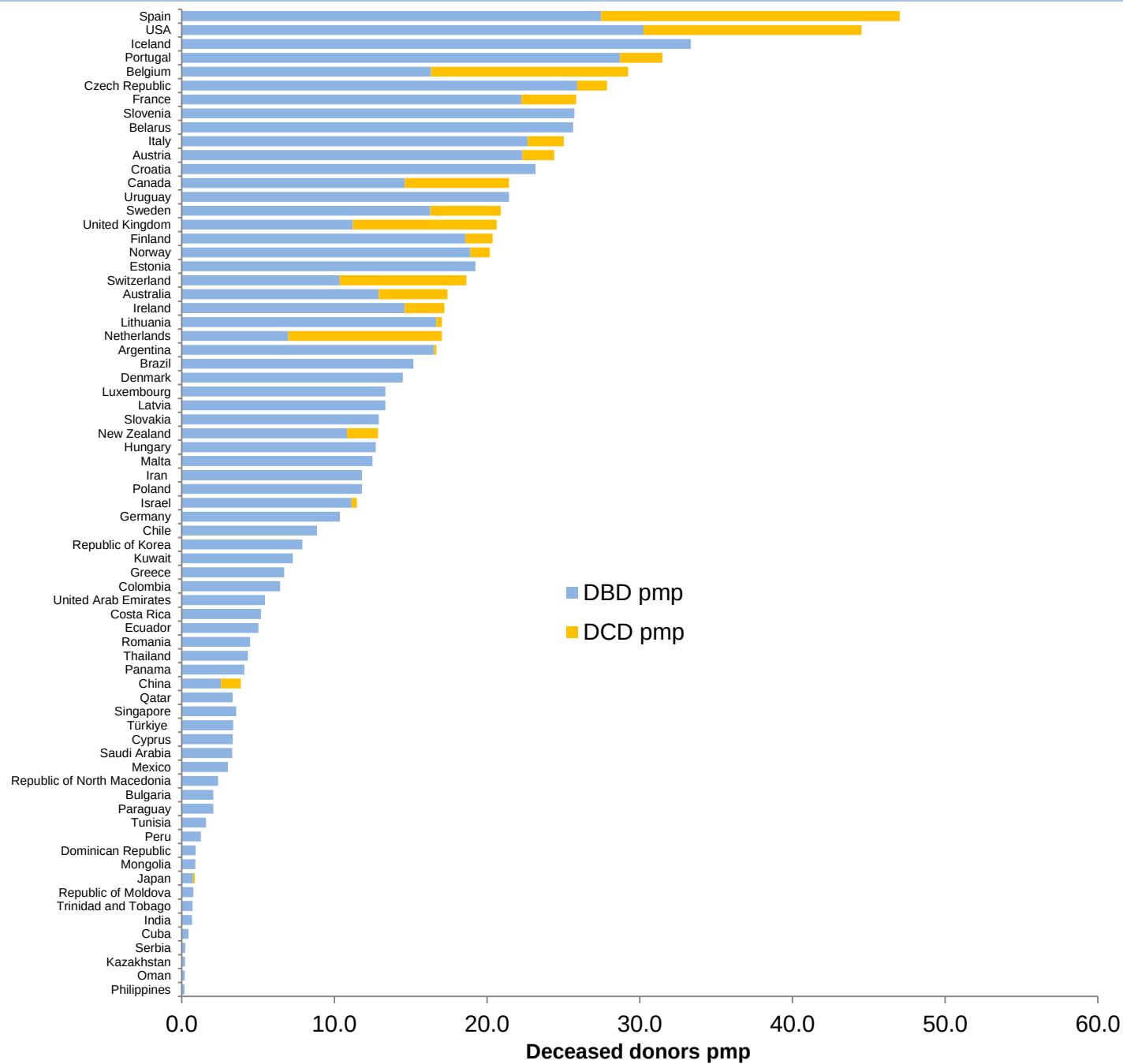
European Region (EUR)

South-East Region (SEAR)

Western Pacific Region (WPR)



Dots represent responding Member States in each WHO region



Actual deceased organ donors by donor type (pmp) 2022

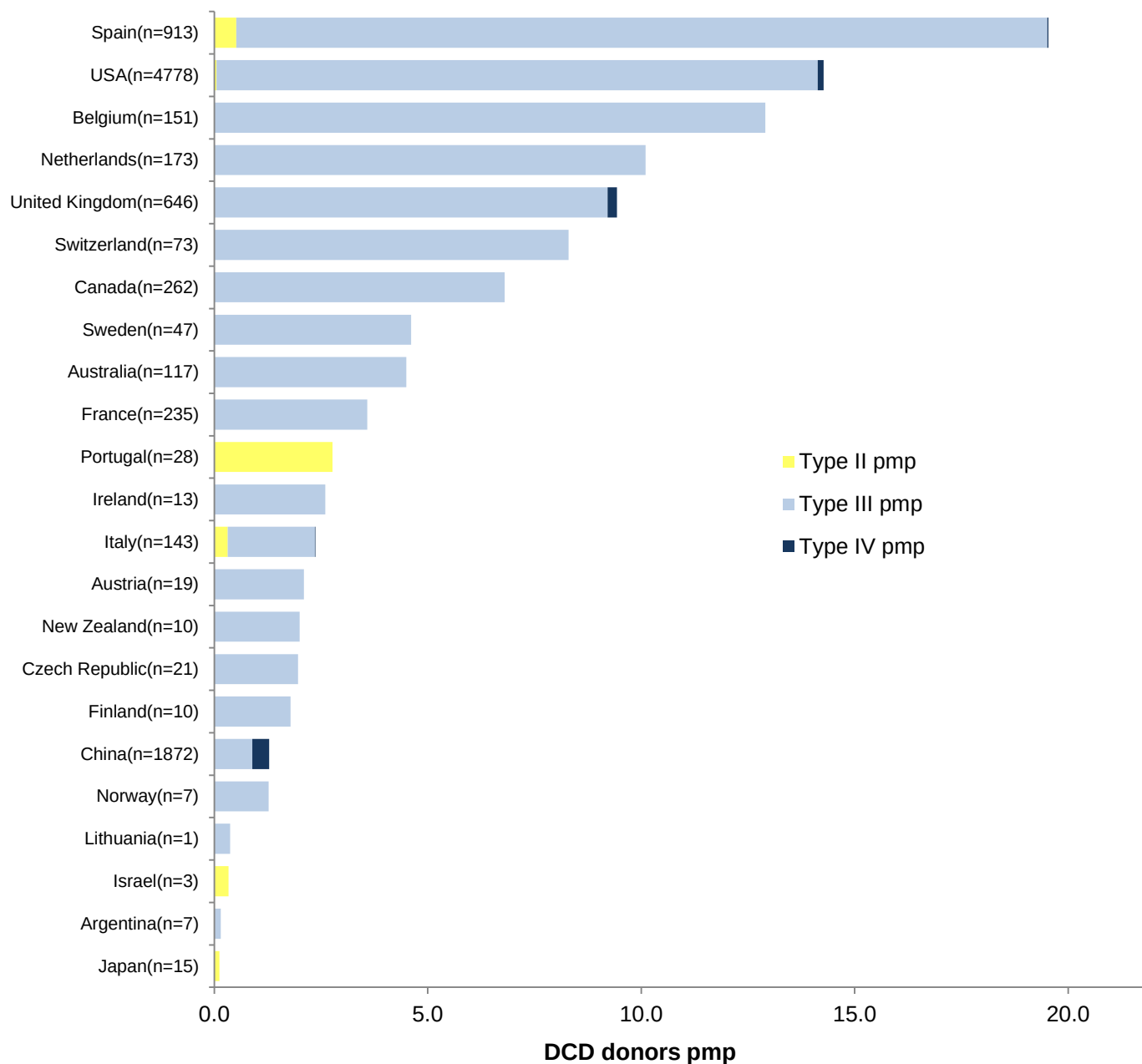
DBD donors: 32 248 (77%)
DCD donors: 9 544 (23%)

**Deceased donation activities reported
in 71/91 countries**

≈ 9.5 % increase vs 2021

**Canada only reported utilized deceased donors*

Actual donor: deceased person from whom at least one organ was recovered for the purpose of transplantation.



Actual DCD donors by Maastricht type (pmp) 2022

DCD donors: 9 544

Type II: 106 (1%)
Type III: 8 798 (92%)*
Type IV: 640 (7%)

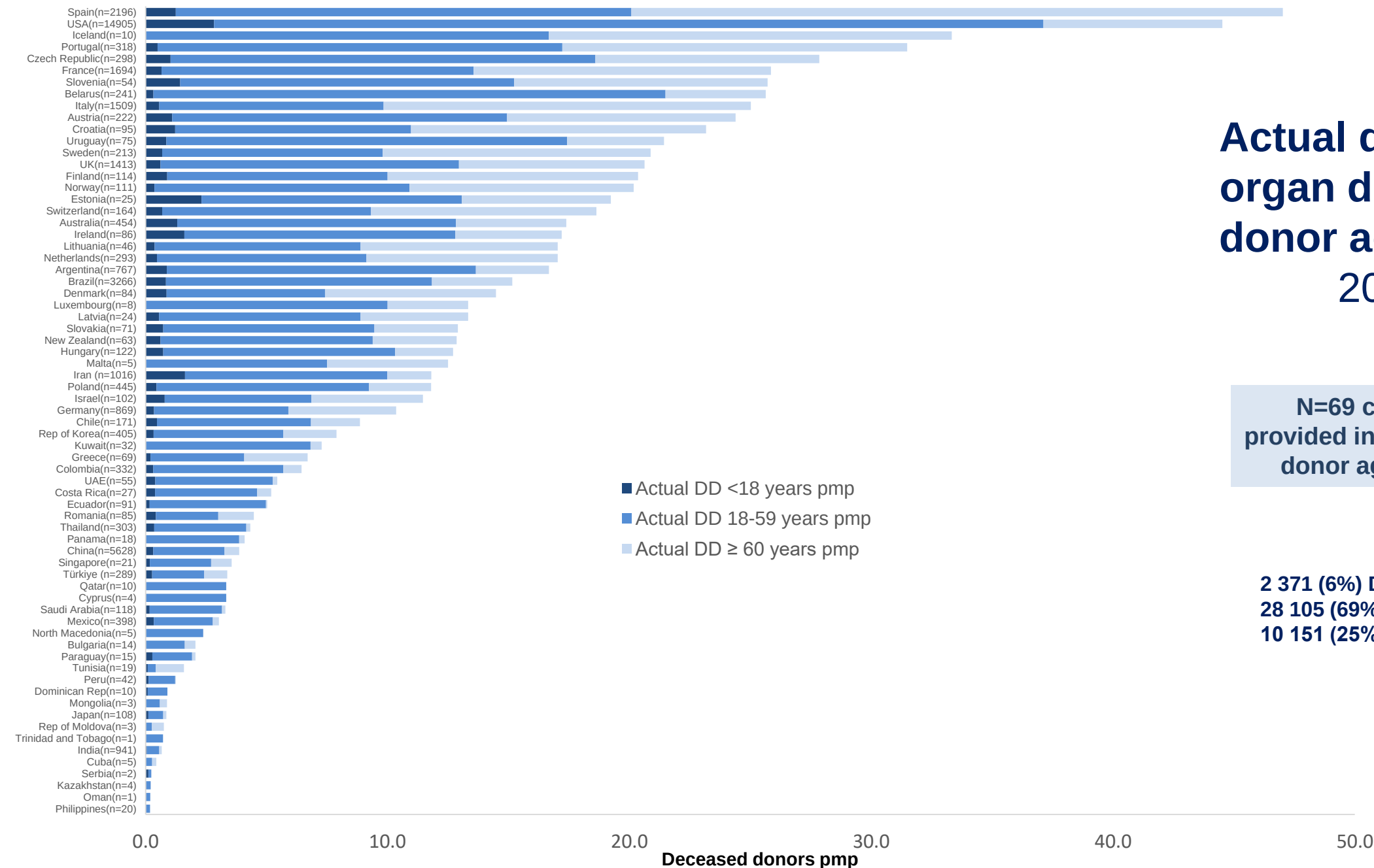
DCD activities reported in 23/91 countries

Type II: Unexpected cardiac arrest, unsuccessfully resuscitated

Type III: Planned WLST with an expected cardiac arrest.

Type IV : Sudden or planned cardiac arrest after brain death.

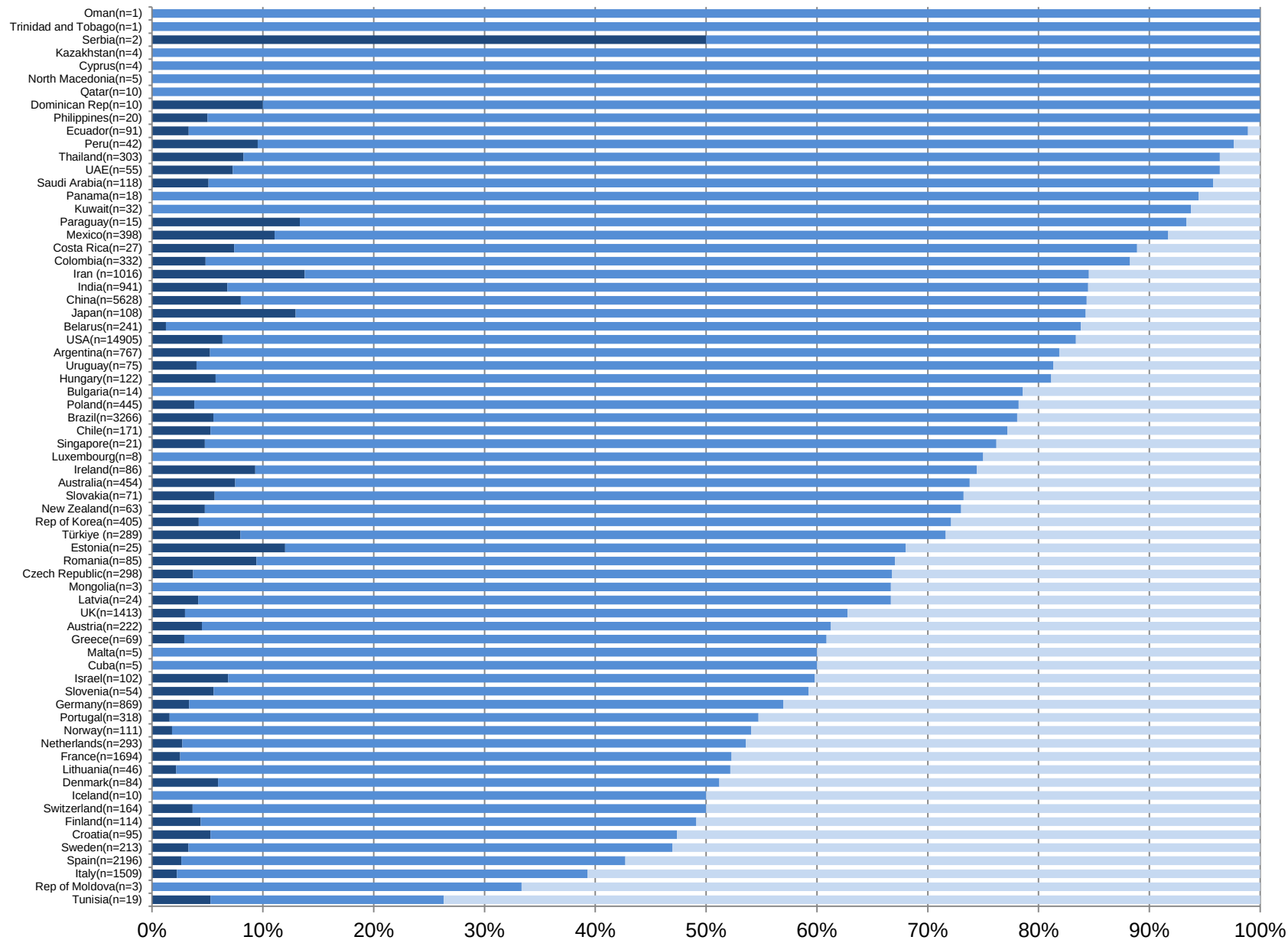
**Includes type V DCD donors (donors after MAiD) for Belgium, Canada, Netherlands and Spain*



Actual deceased organ donors by donor age (pmp) 2022

N=69 countries
provided information on
donor age groups

2 371 (6%) DD < 18 years
28 105 (69%) DD 18-59 years
10 151 (25%) DD ≥ 60 years

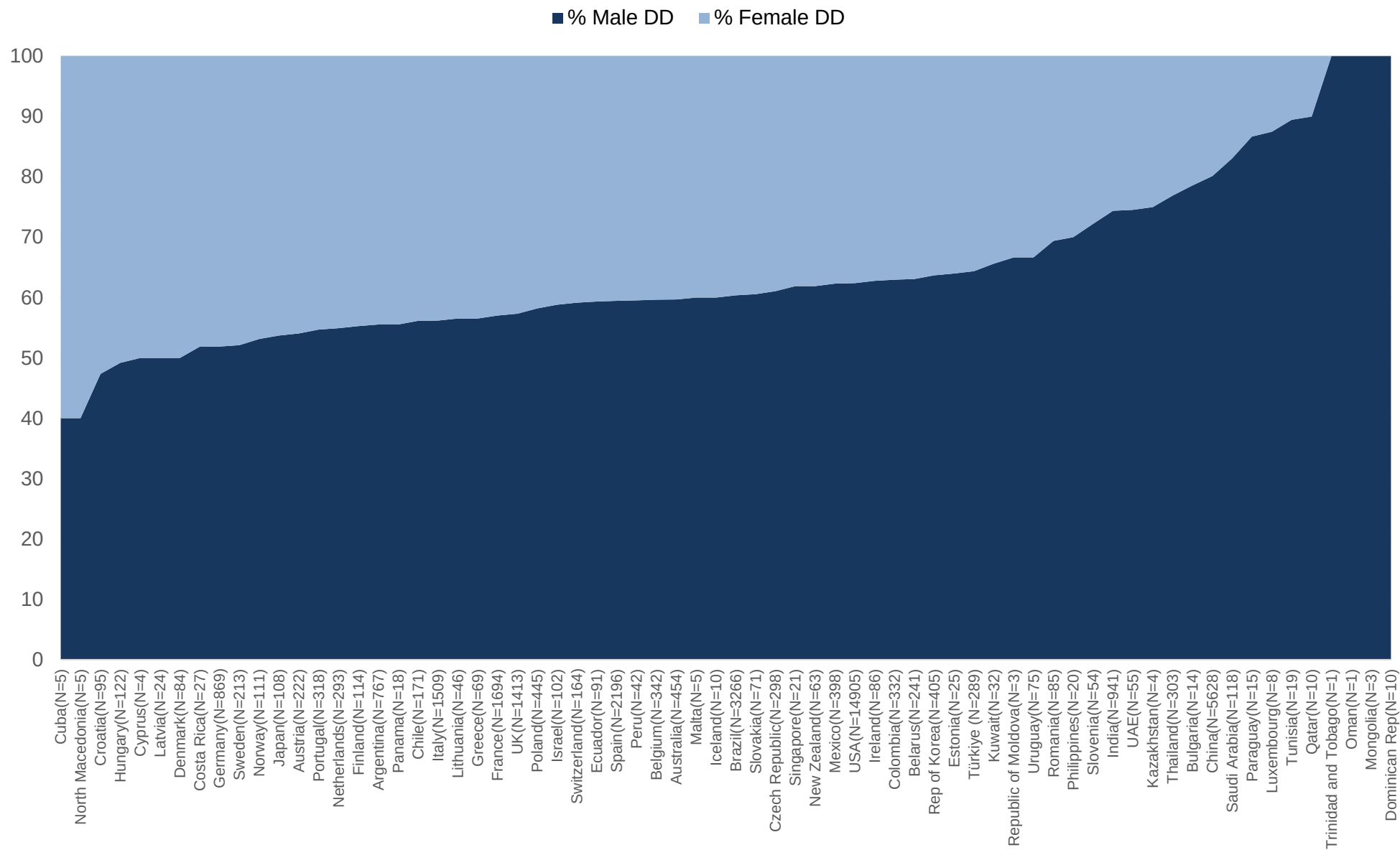


Actual deceased organ donors by age (%) 2022

■ % < 18 years
■ % 18-59 years
■ % ≥ 60 years

N=69 countries
provided information on
donor age groups

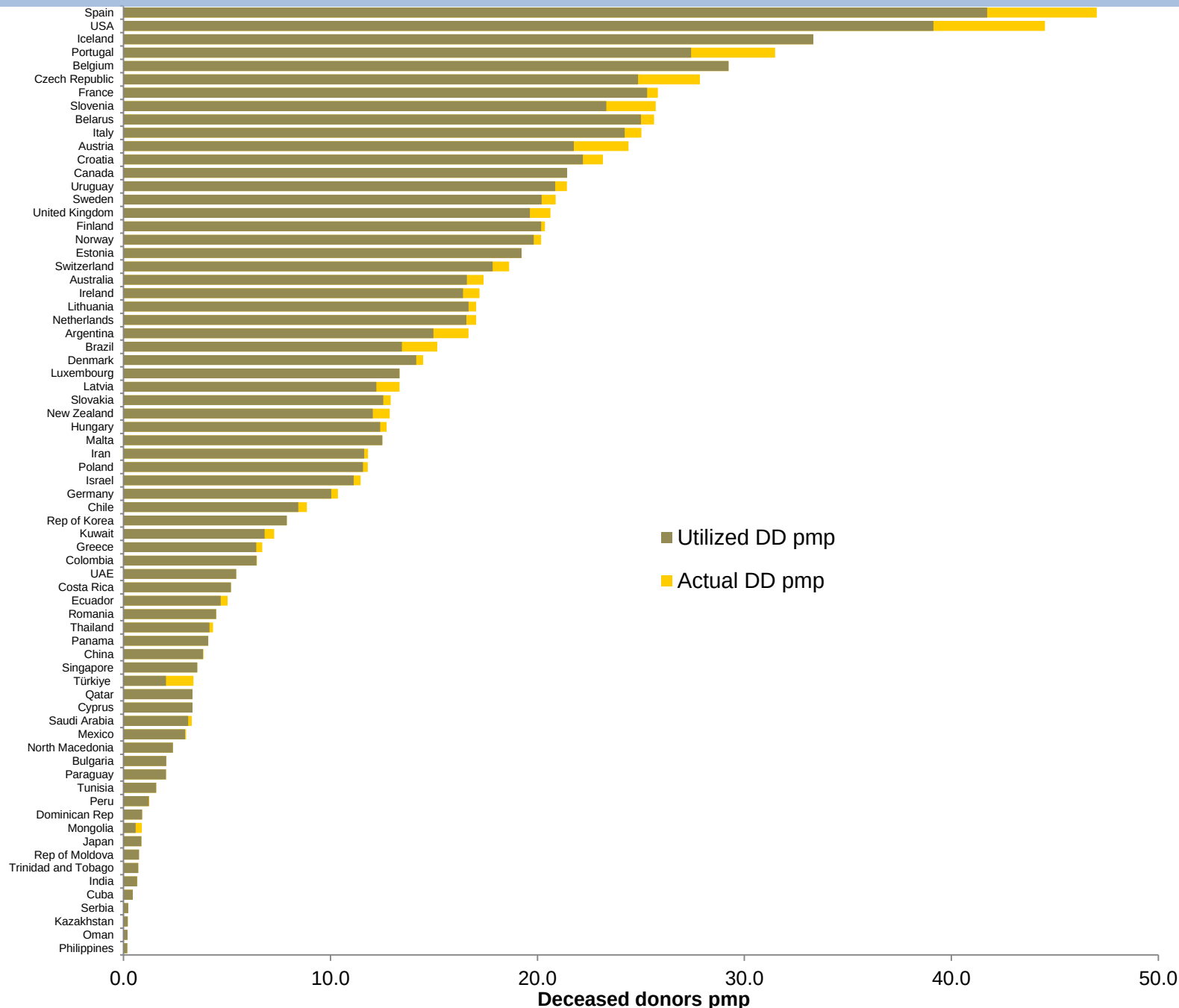
2 371 (6%) DD < 18 years
28 105 (69%) DD 18-59 years
10 151 (25%) DD ≥ 60 years



Actual deceased organ donors by donor sex (%) 2022

68 countries provided information according to donor sex

**25 398 (64%) male donors
14 553 (36%) female donors**



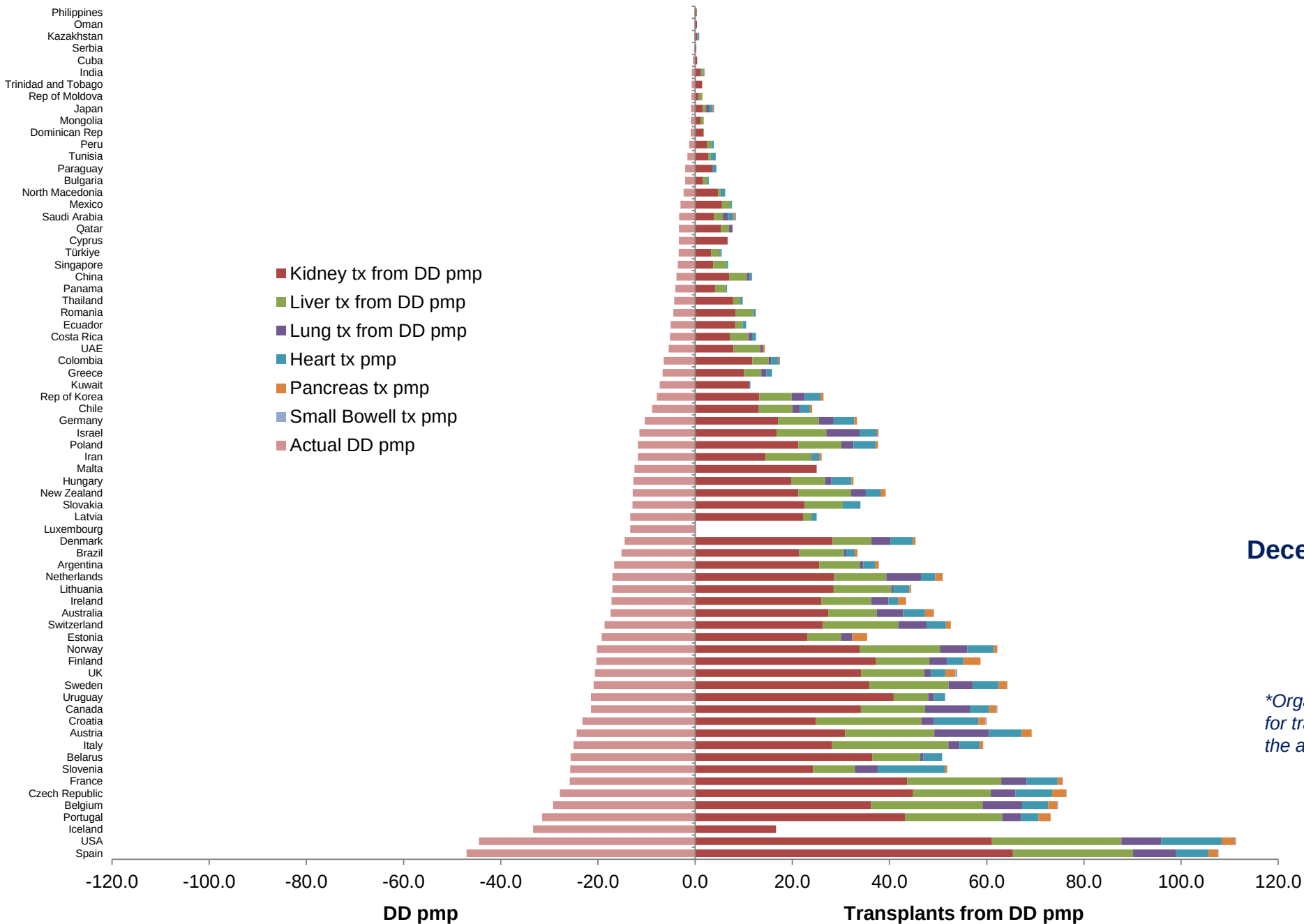
Actual and utilized deceased organ donors (pmp) 2022

Deceased donation activities reported
in 71/91 countries

**Canada only reported utilized deceased donors*

*Actual donor: deceased person from whom at least one organ
was recovered for the purpose of transplantation.*

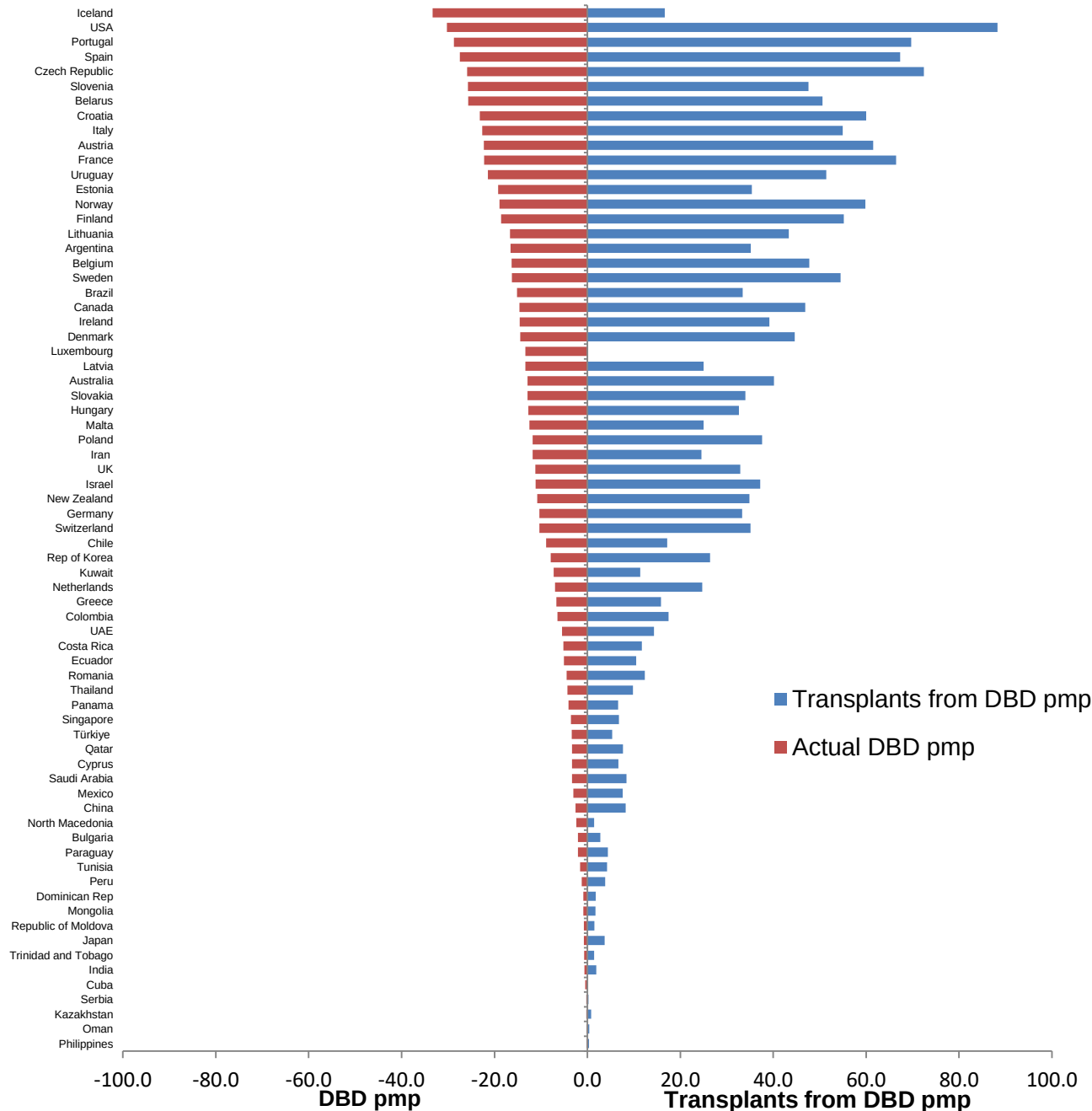
*Utilized donor: deceased person from whom at least one organ
was transplanted.*



Actual deceased organ donors and transplants from deceased donors by type of organ (pmp) 2022

Deceased donation activities reported in 71/91 countries

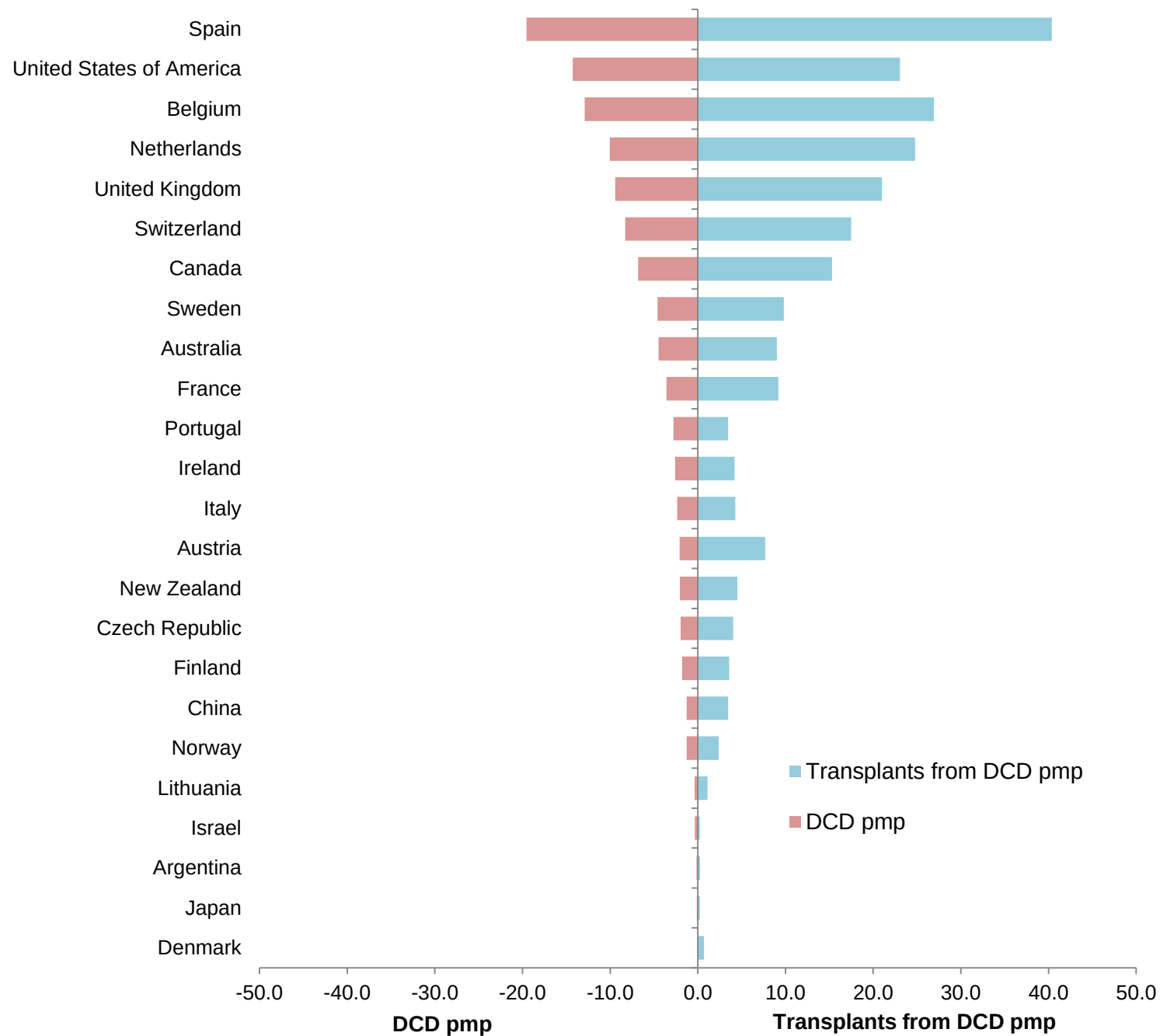
**Organs recovered from deceased donors may be used for transplantation in other jurisdictions, particularly in the absence of local transplant programs.*



Actual DBD donors and transplants from DBD donors (pmp) 2022

DBD donors: 32 248 (77%)
DBD activities reported in 71/91
countries

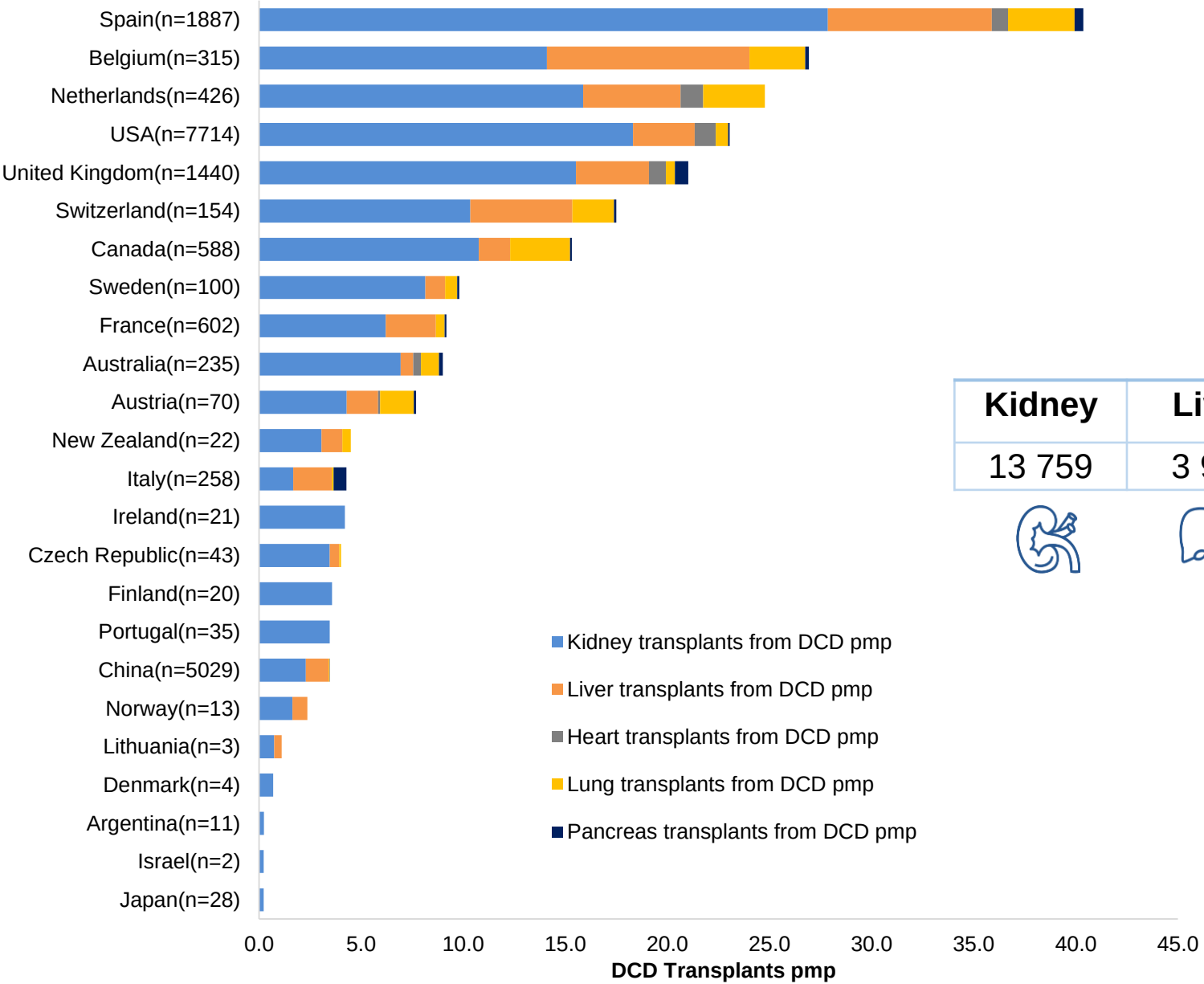
**Organs recovered from deceased donors may be used for transplantation in other jurisdictions, particularly in the absence of local transplant programs.*



**Actual DCD donors
and transplants from
DCD donors (pmp)
2022**

**DCD TRANSPLANT activities
reported in 24/91 countries**

DCD donors: 9 544 (23%)

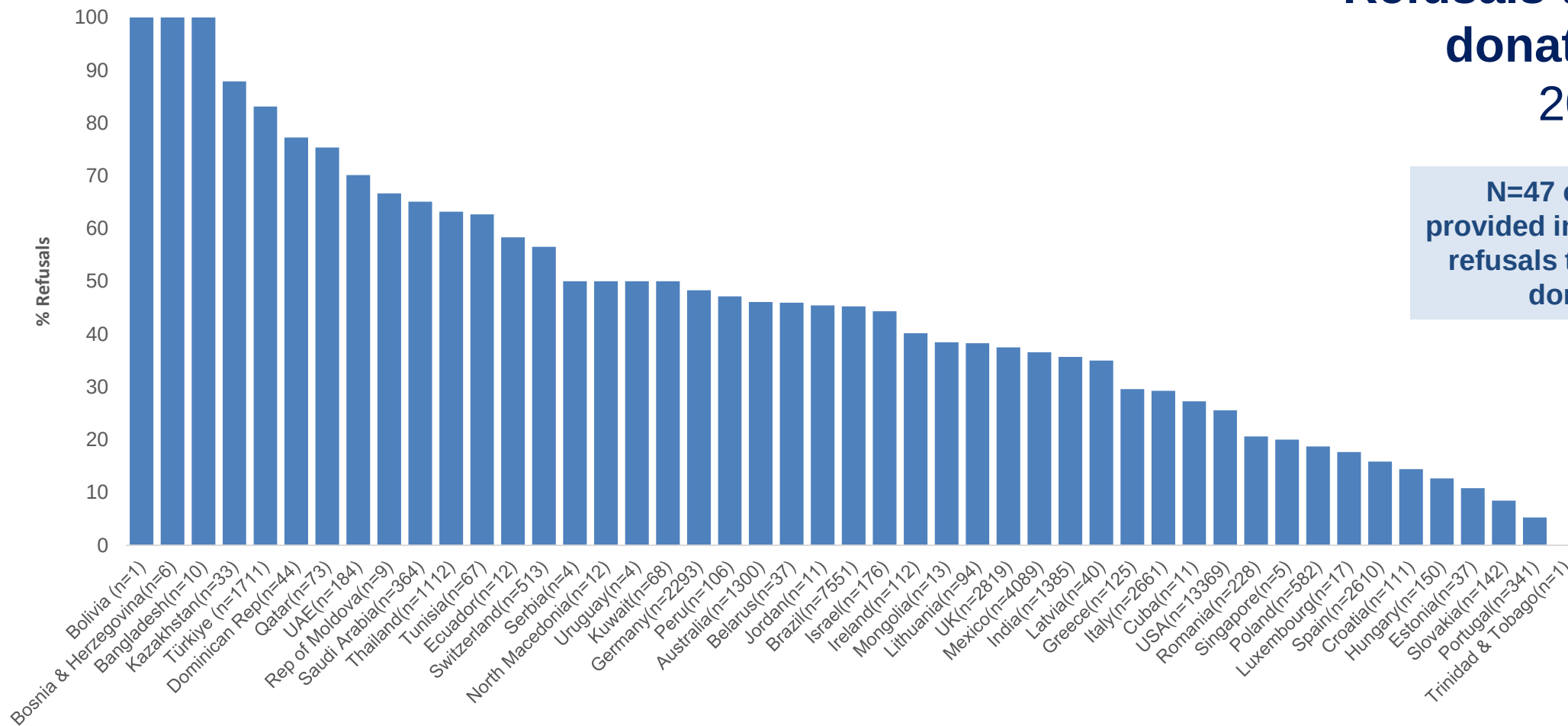


Transplants from DCD donors per type of organ (pmp) 2022

Kidney	Liver	Lung	Heart	Pancreas	Total
13 759	3 911	722	469	157	19 018
					

Refusals to deceased donation (%) 2022

N=47 countries
provided information on
refusals to deceased
donation

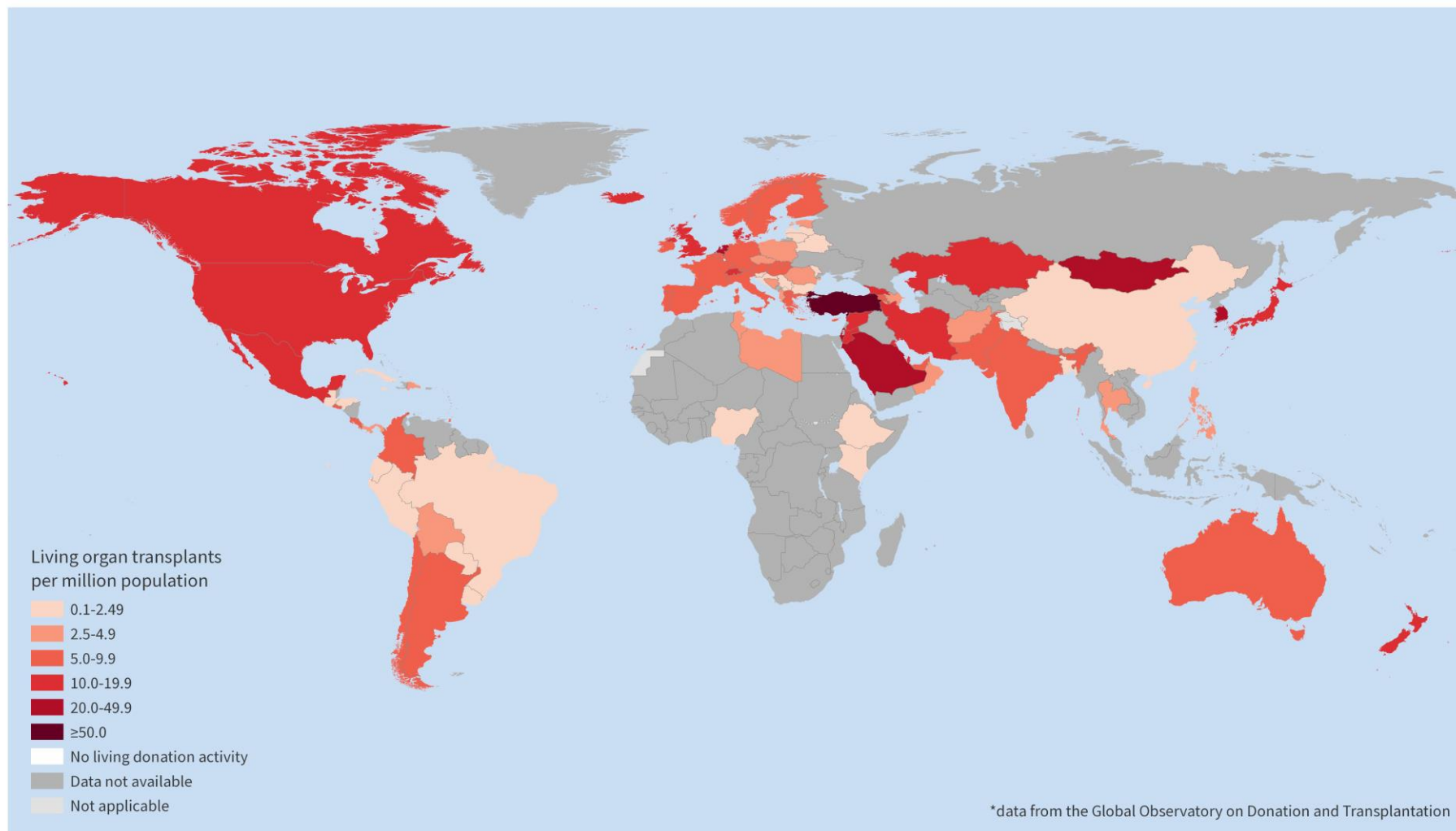


*Number of interviews is presented in brackets.



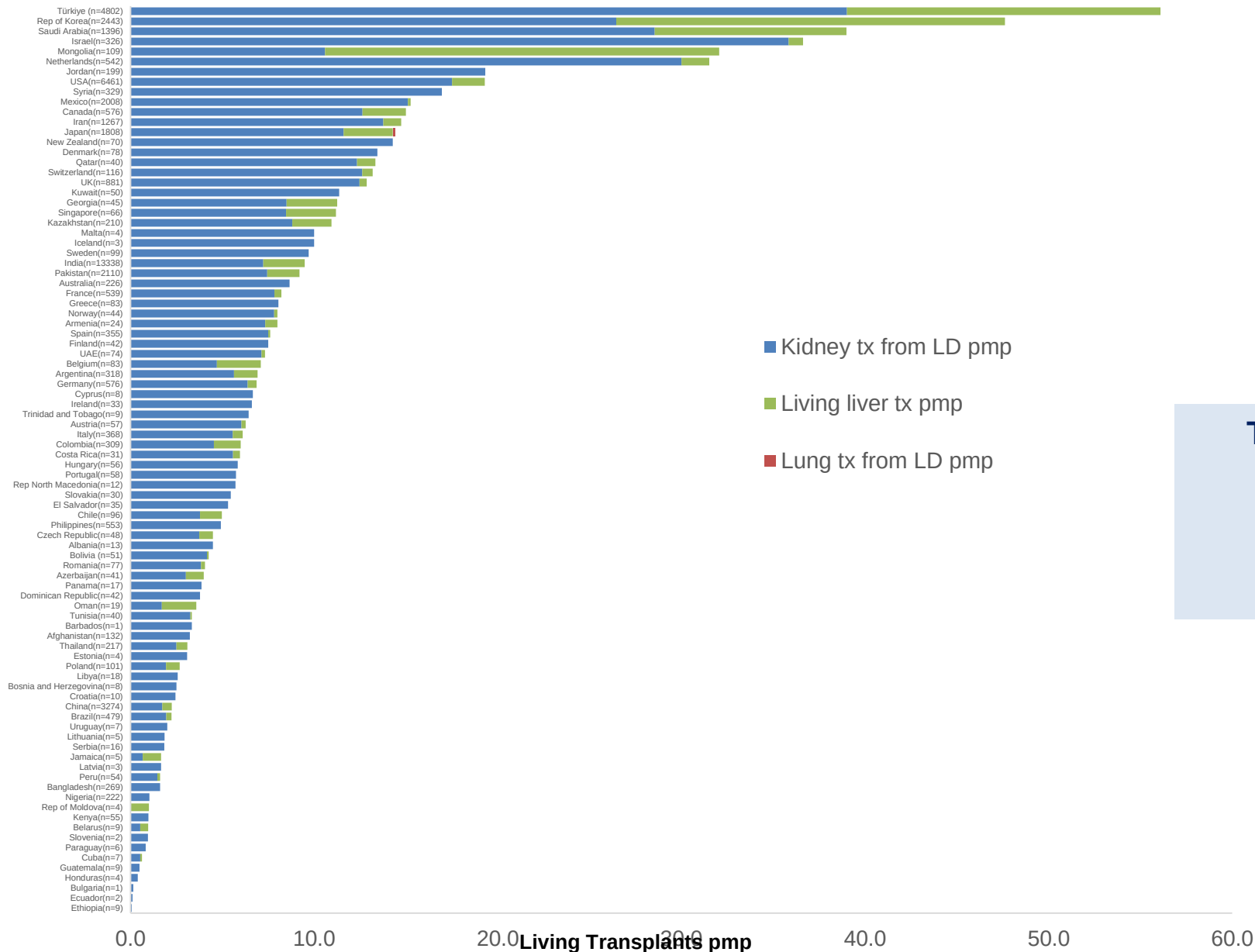
LIVING DONATION ACTIVITY

Organ transplantation from living donors, 2022*



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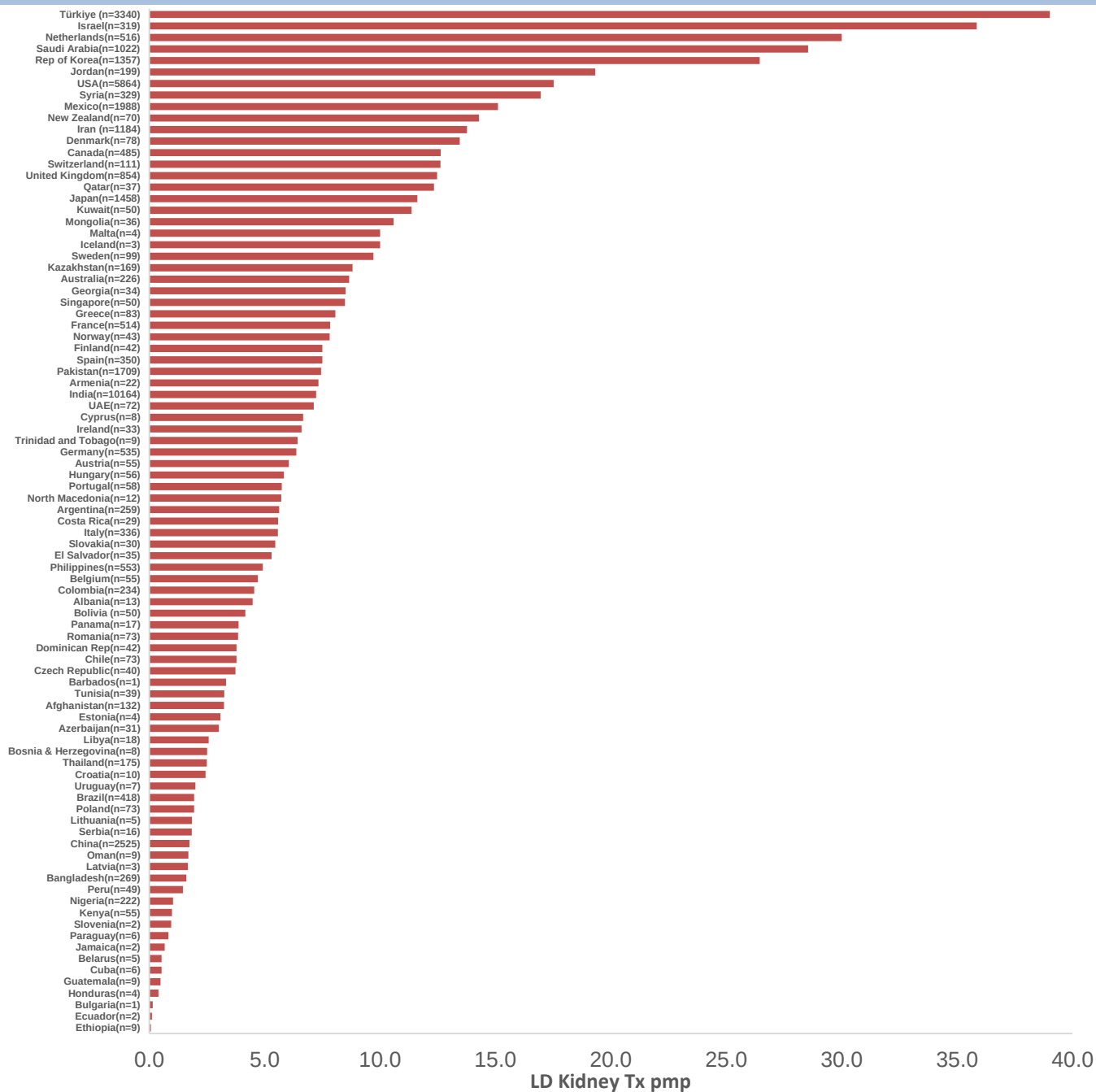


Transplants from living donors *per* type of organ (pmp) 2022

Total number of LD transplants:

39 601 kidney transplants
9 061 liver transplants
14 lung transplants

Living transplants performed in 90/91 countries

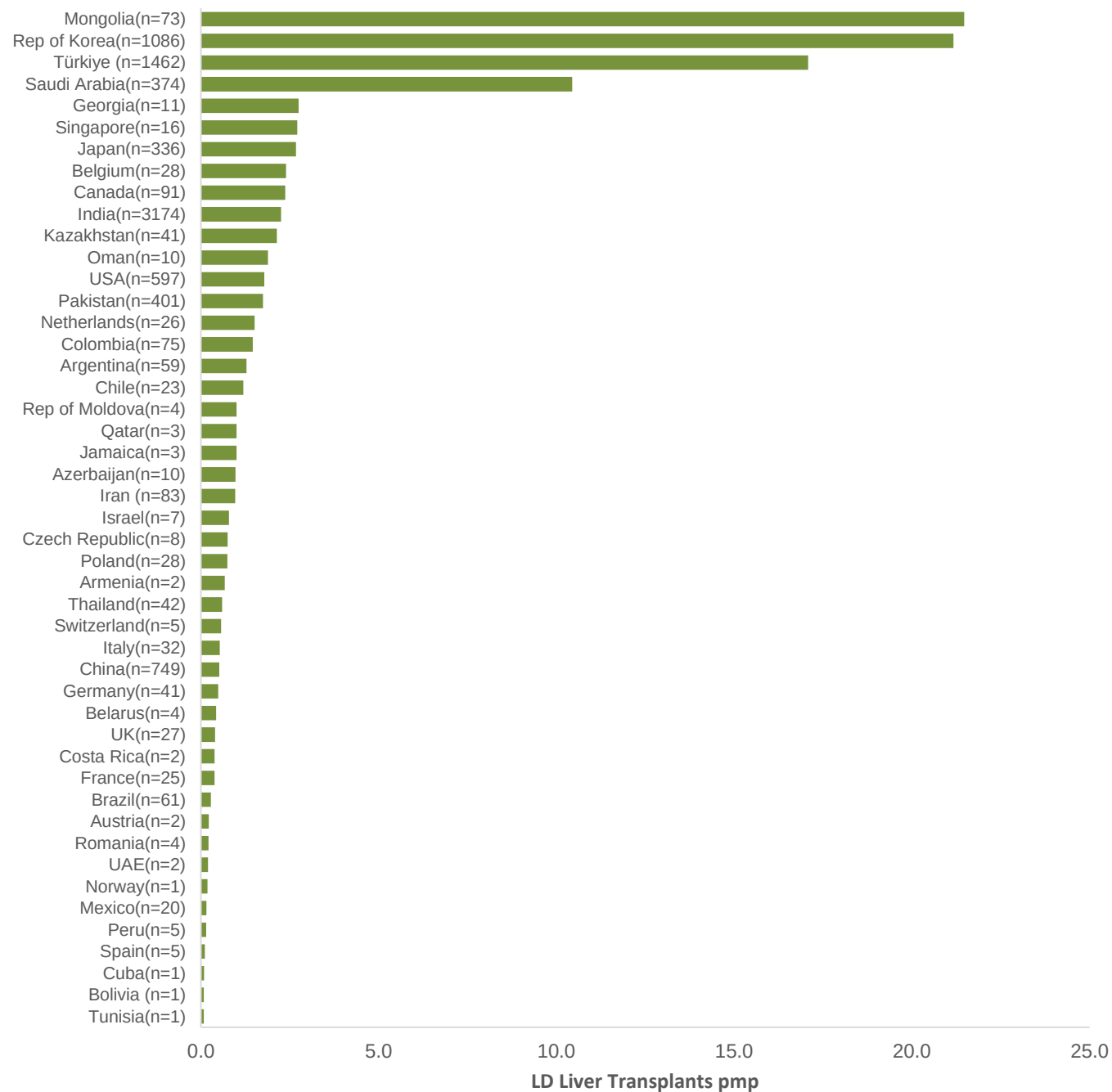


Kidney transplants from living donors (pmp) 2022



39 601 living kidney transplants

Living kidney transplants performed in
89/91 countries

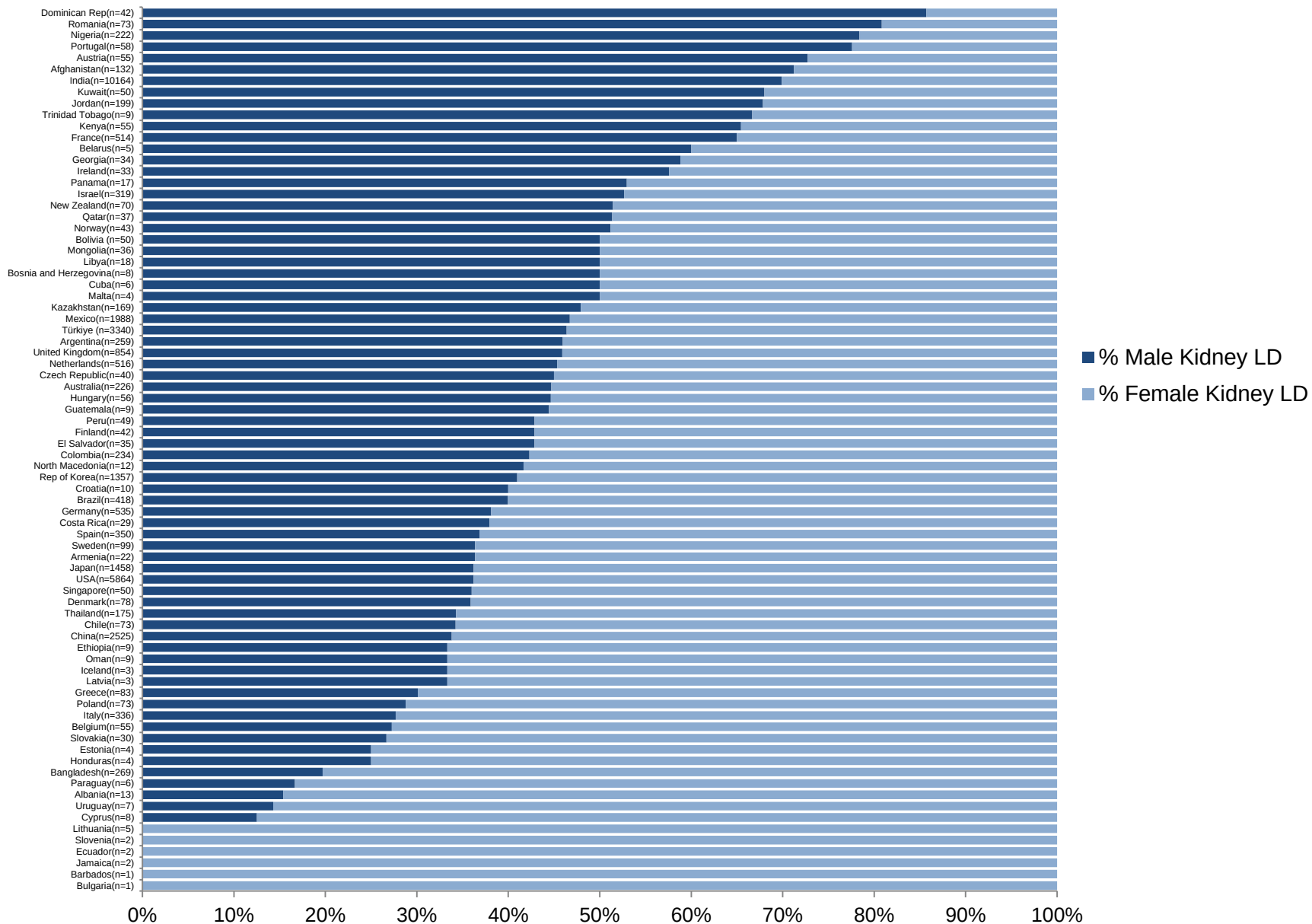


Liver transplants activities from living donors (pmp) 2022



9 061 living liver transplants

Living Liver transplants performed in
47/91 countries

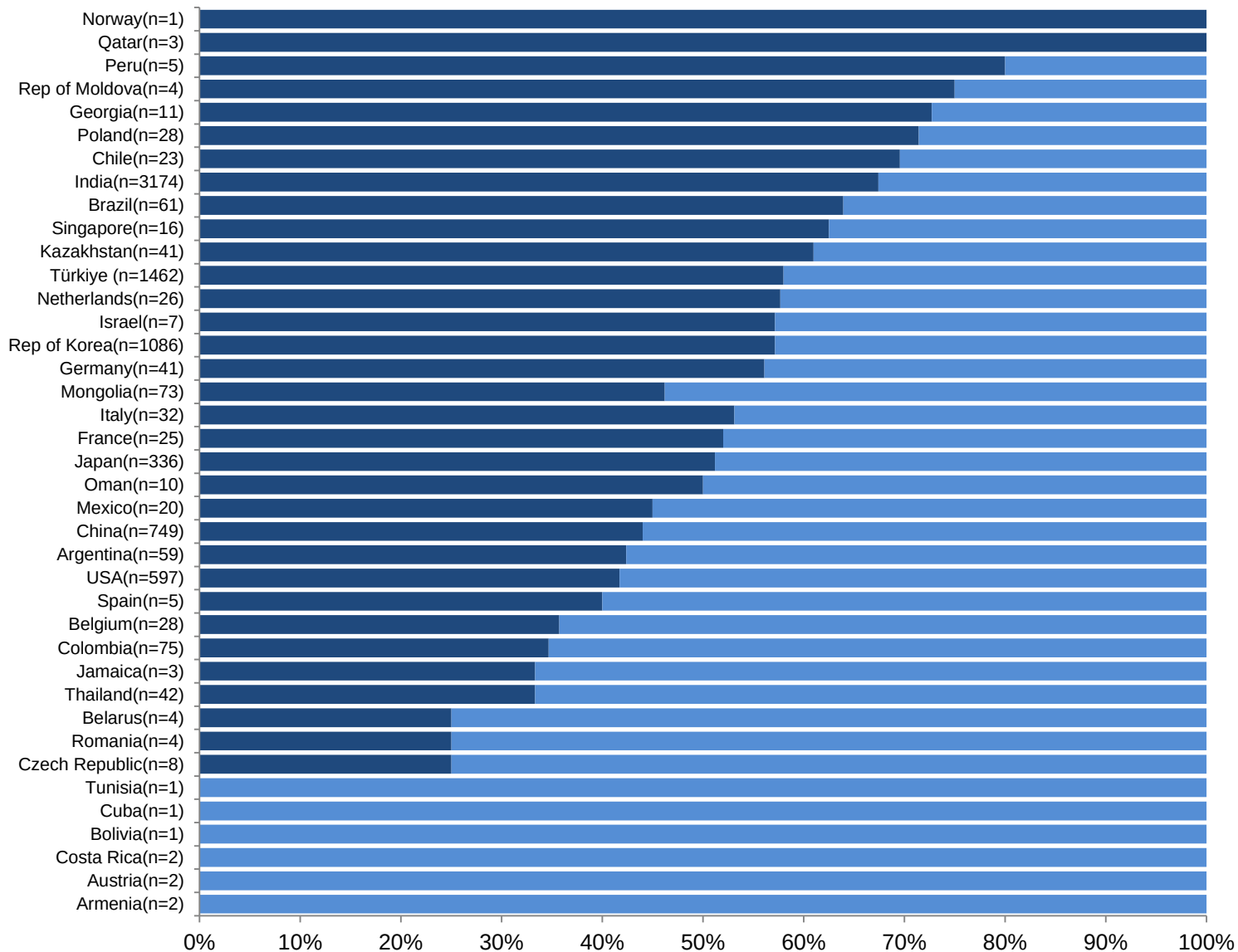


Living kidney donors by donor sex (%) 2022



17 045 (50%) male kidney living donors
17 006 (50%) female kidney living donors

N= 78 countries provided information on
donor sex



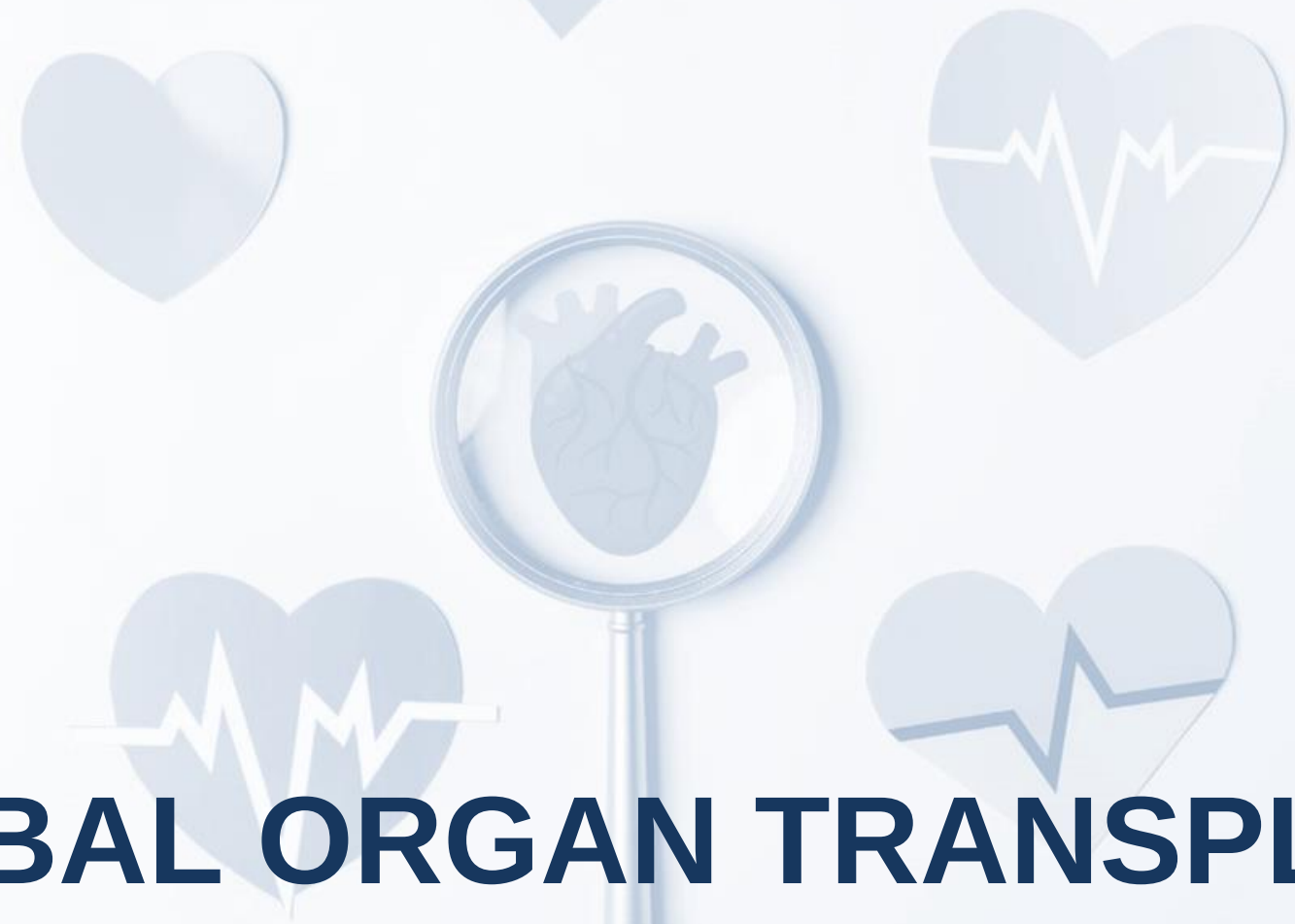
Living liver donors by donor sex (%) 2022



■ % Male Liver LD
■ % Female Liver LD

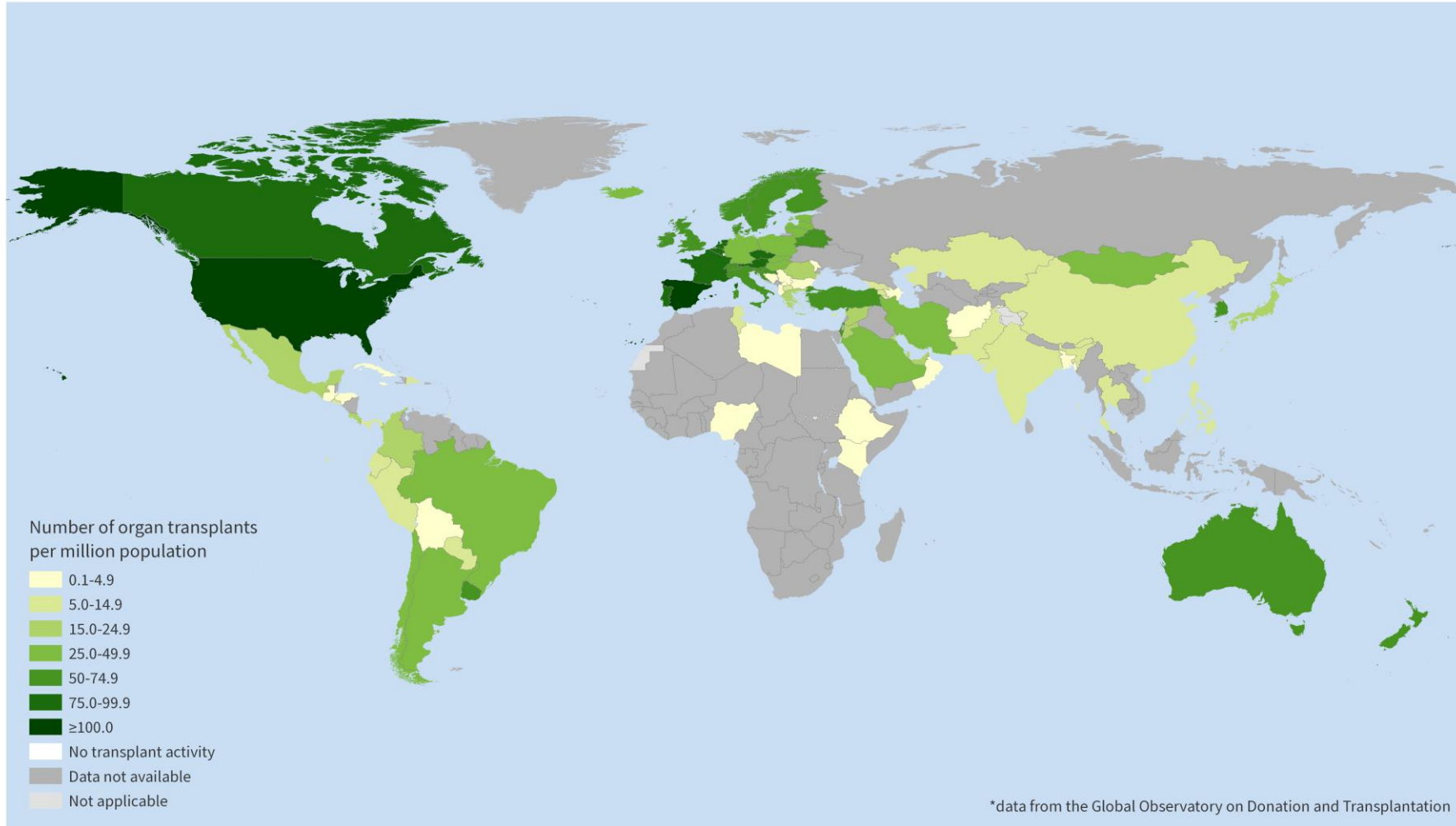
4 720 (58%) male living liver donors
3 389 (42%) female living liver donors

N= 39 countries provided information on
donor sex



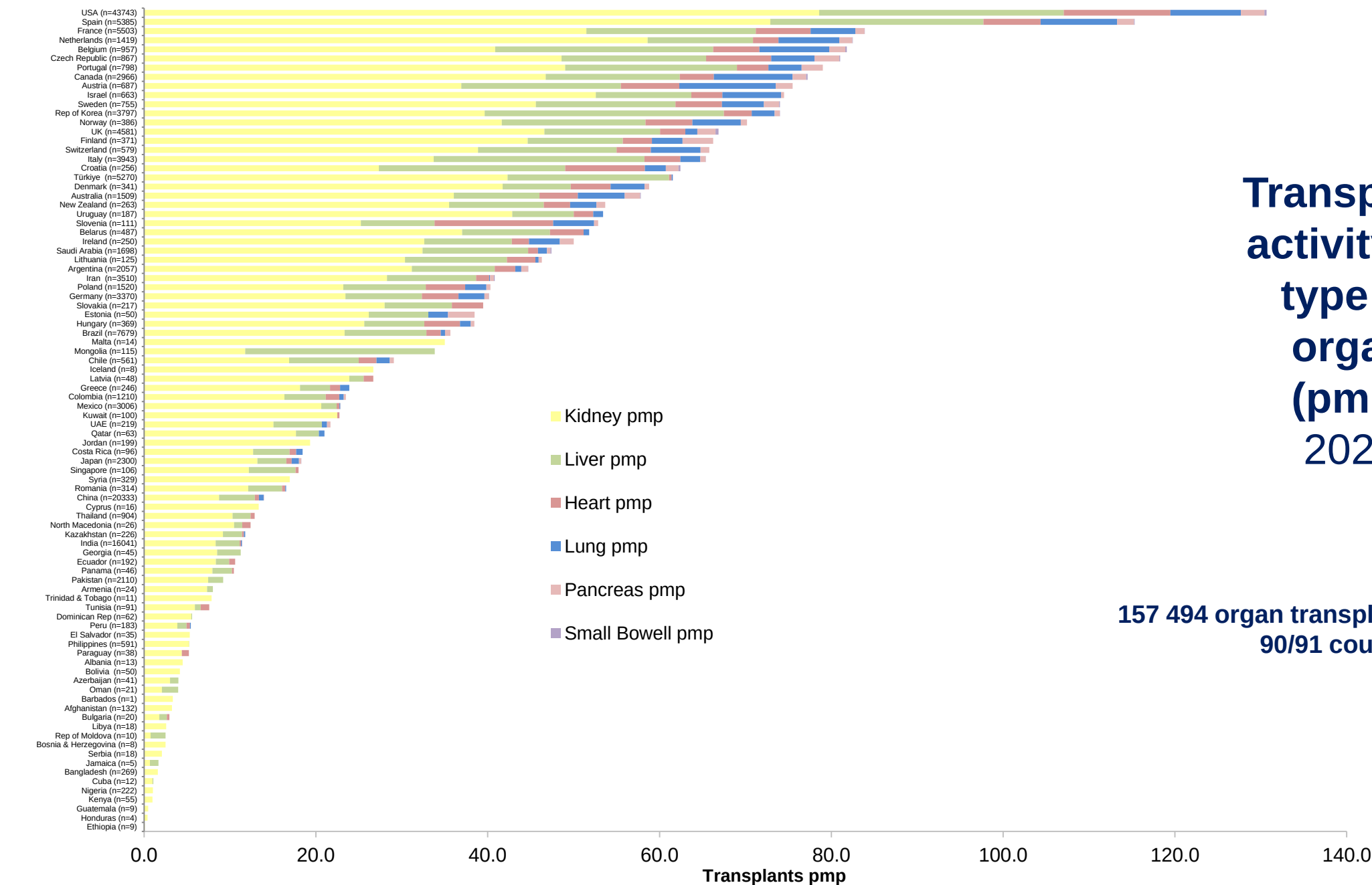
GLOBAL ORGAN TRANSPLANT ACTIVITY

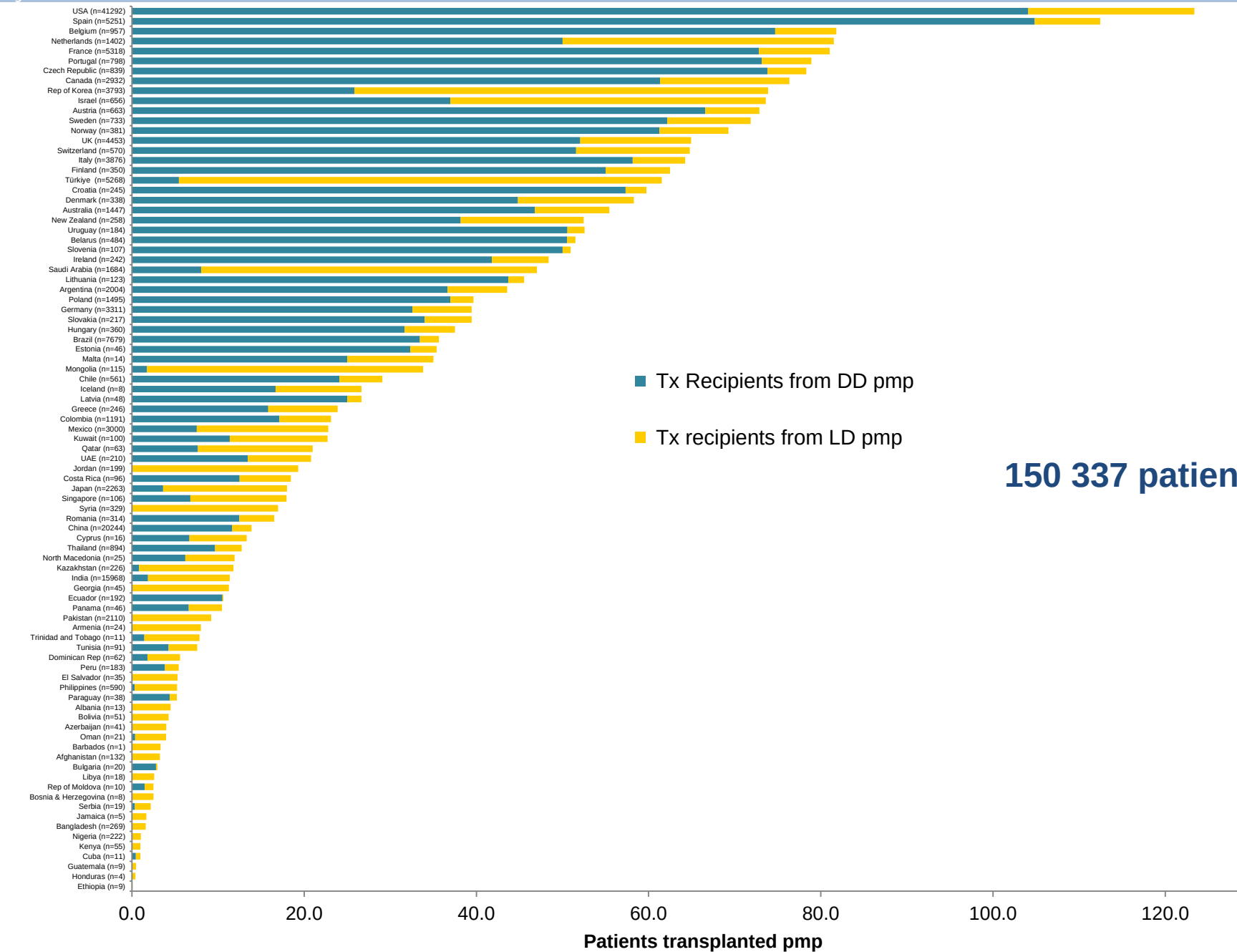
Global transplantation activities of solid organs, 2022*



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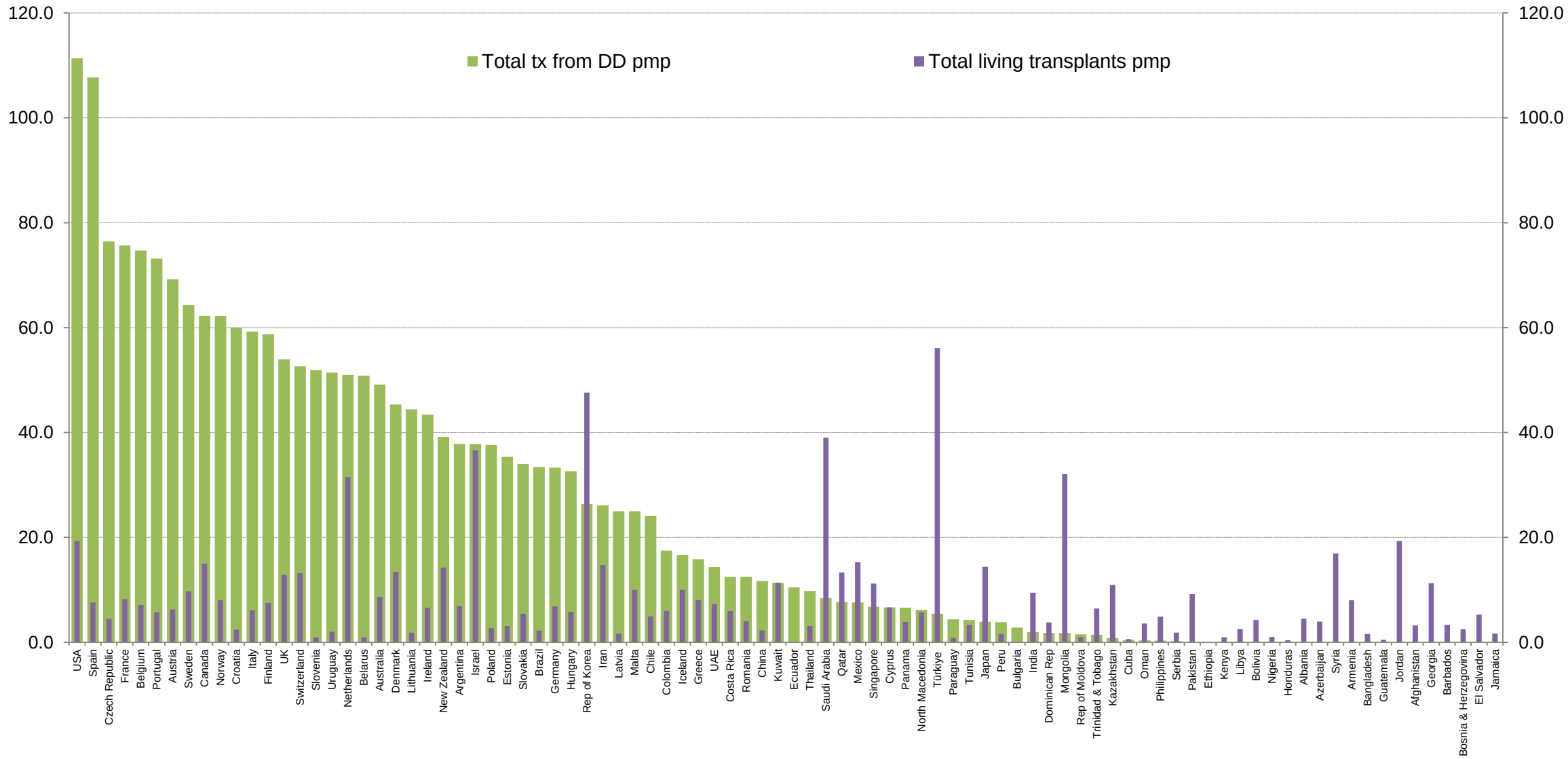


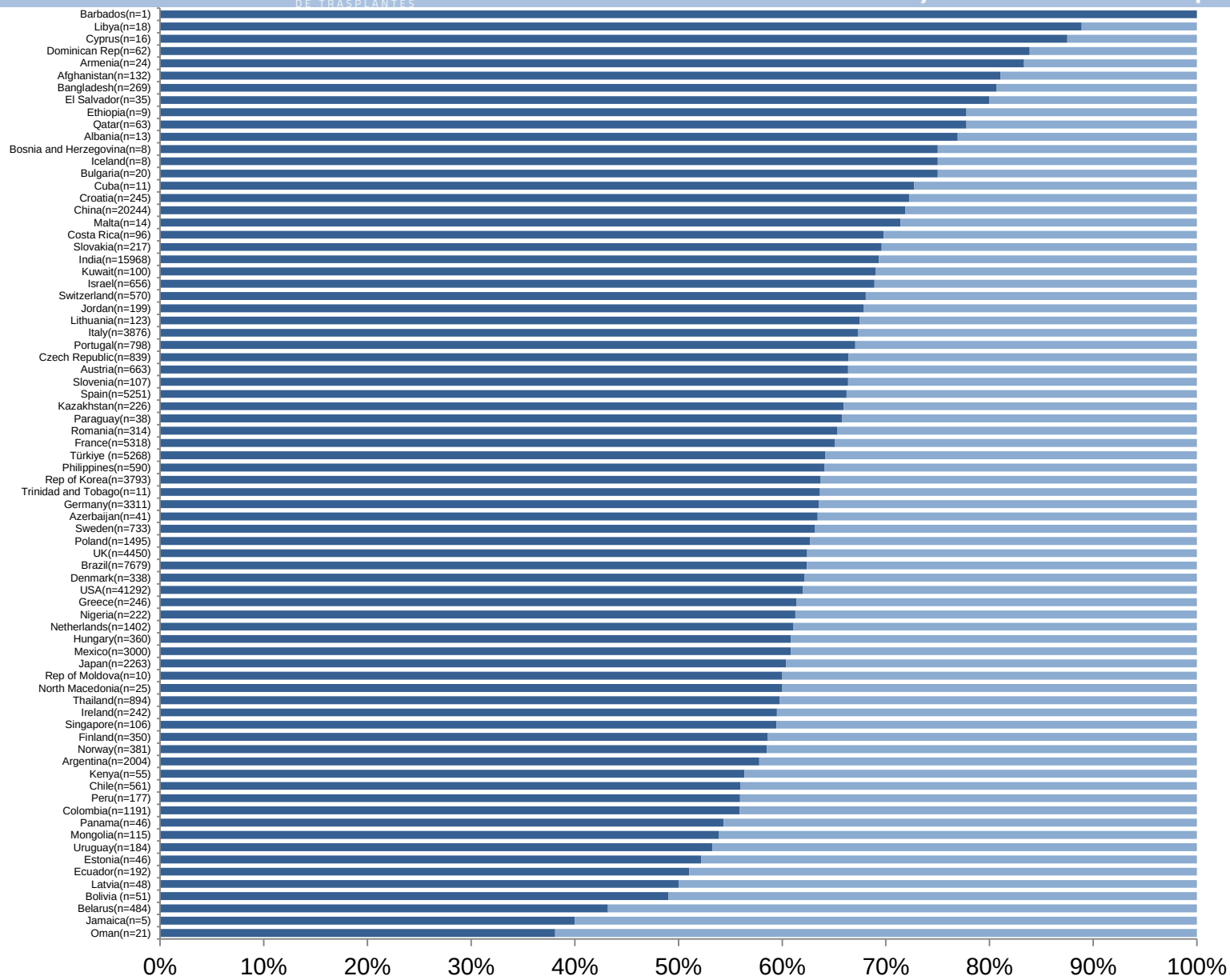
Patients transplanted* (pmp) 2022

150 337 patients transplanted in 90/91 countries

**A recipient of more than one organ is counted as one recipient, therefore the number of patients transplanted is smaller than the number of organs transplanted (see previous slide)*

Transplants from deceased persons vs transplants from living persons (pmp). 2022





Patients transplanted by sex (%) 2022

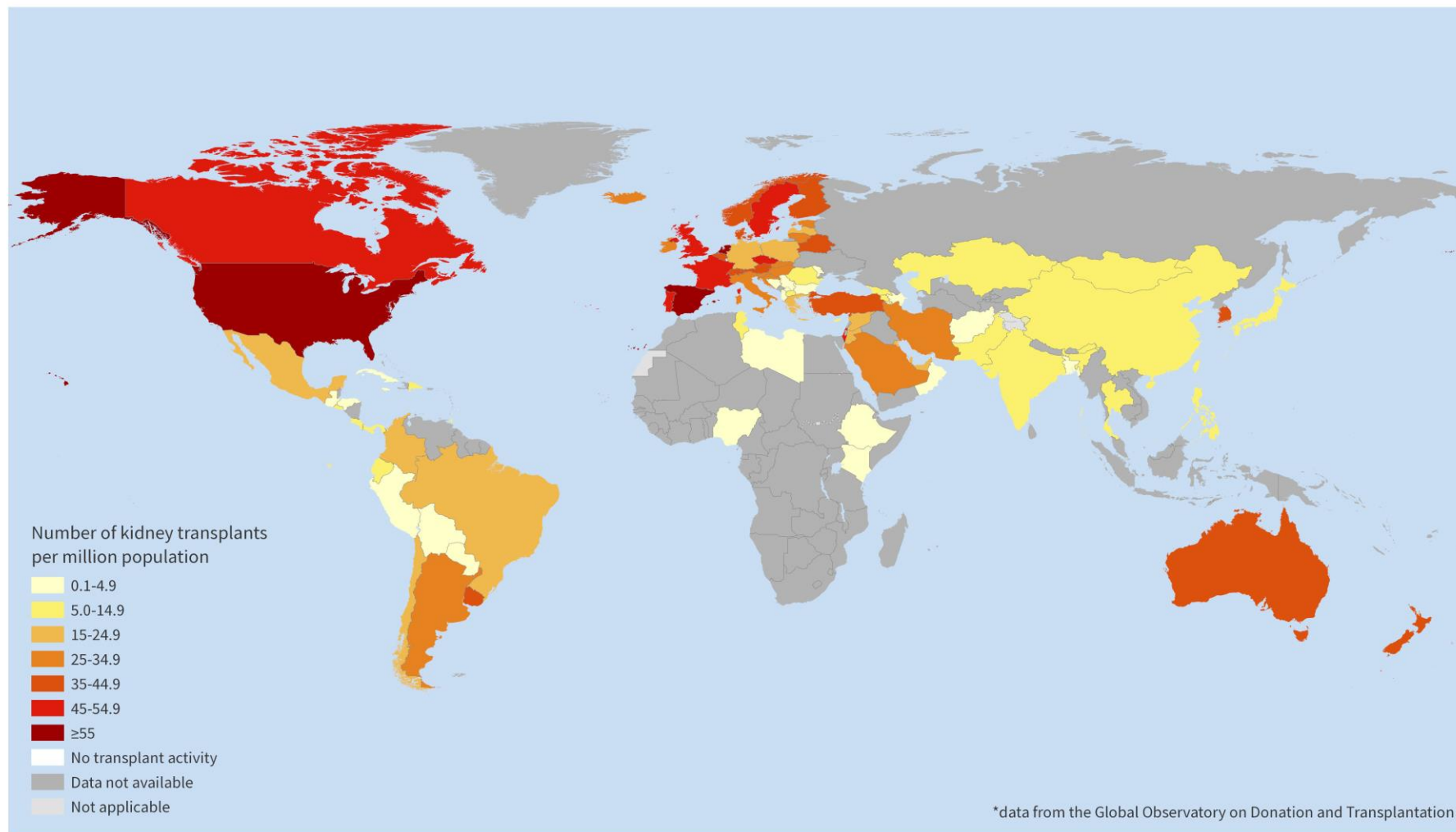
■ % Male recipients

■ % Female recipients

90 910 (65%) male recipients
49 323 (35%) female recipients

N= 76 countries provided information
on sex of recipients

Kidney transplantation activities, 2022*



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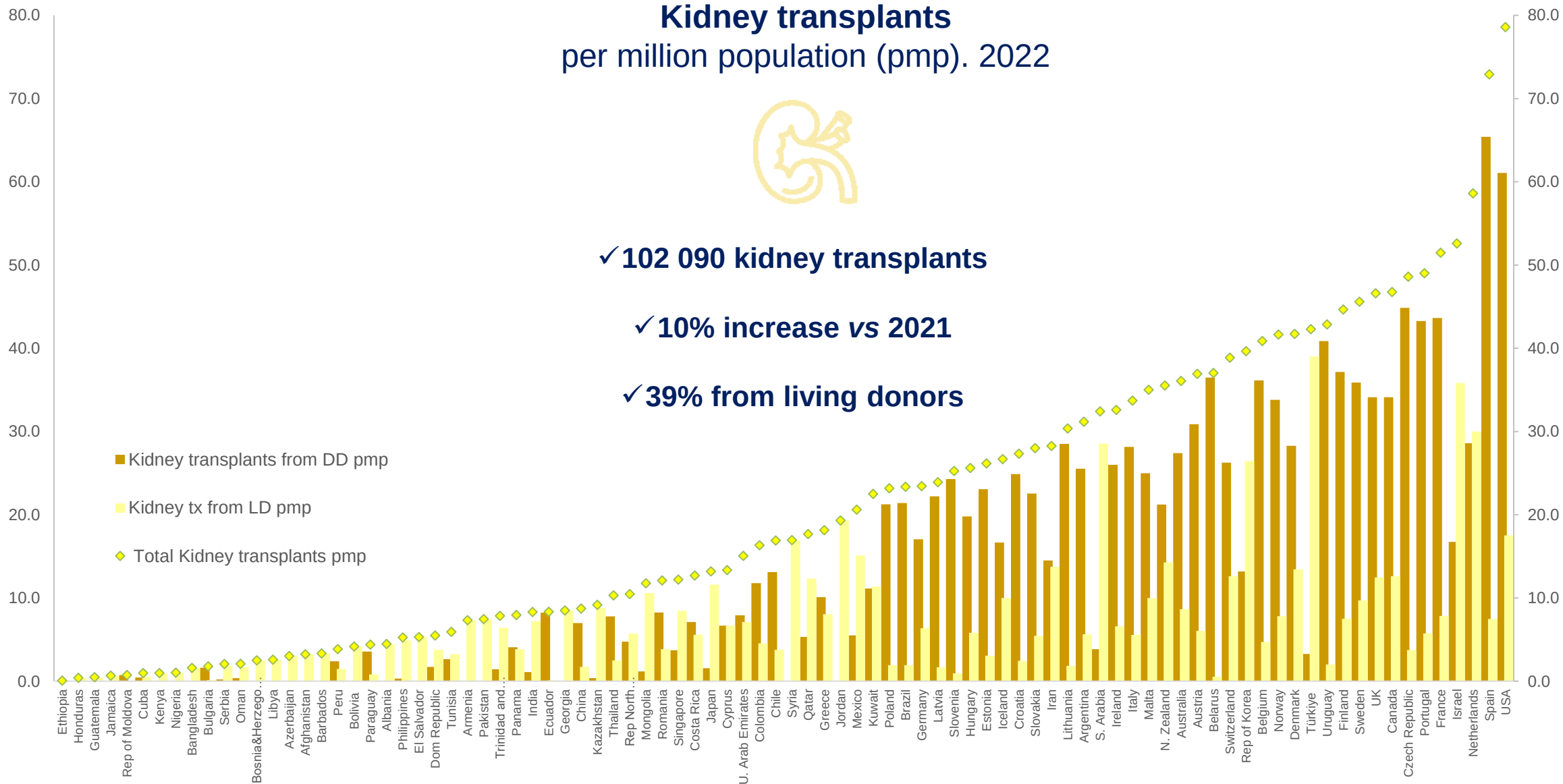
Kidney transplants per million population (pmp). 2022



✓ 102 090 kidney transplants

✓ 10% increase vs 2021

✓ 39% from living donors

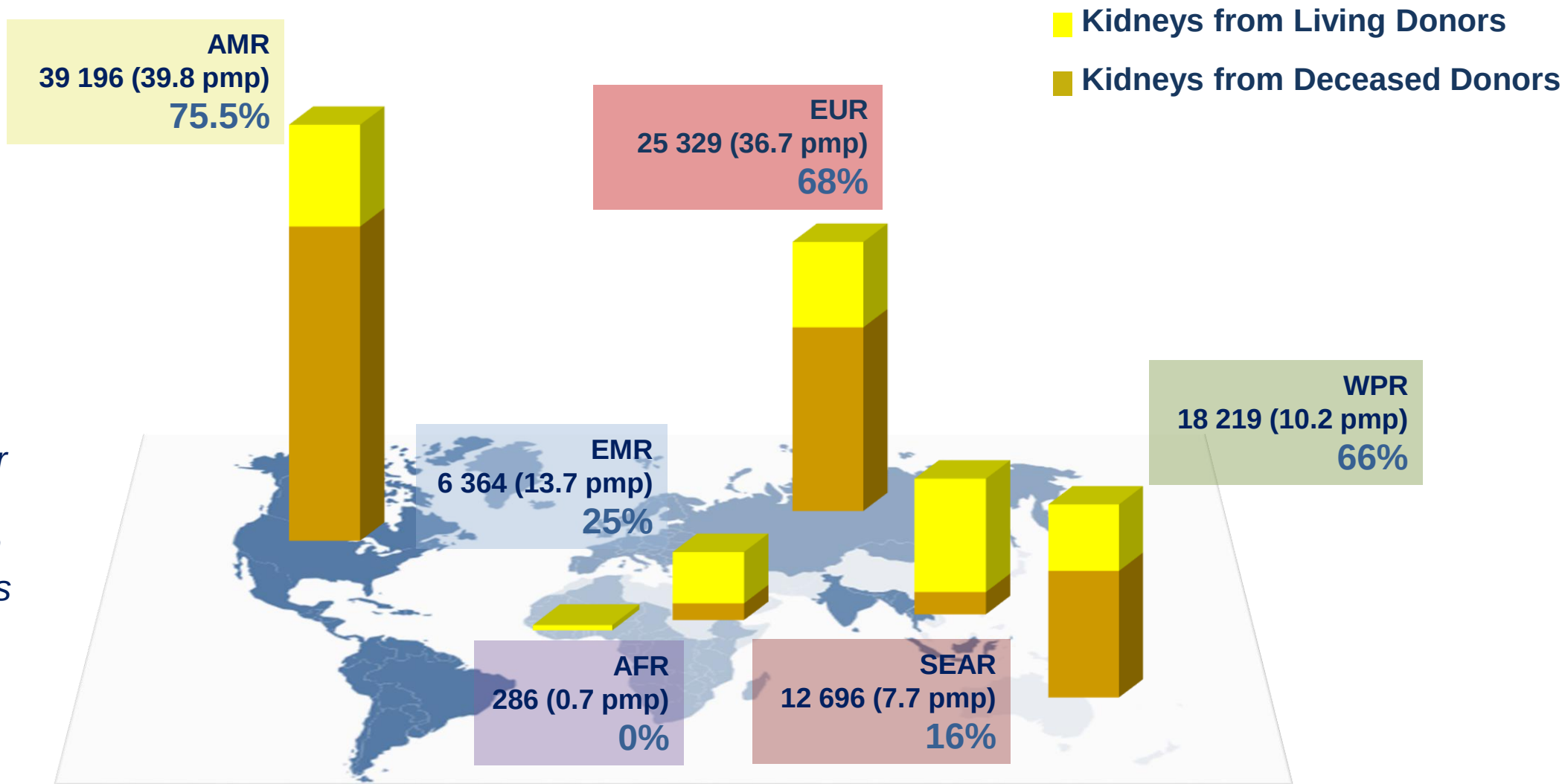


90/91 countries reported kidney transplant activities (living or deceased) in 2022



Kidney transplants by WHO regions 2022

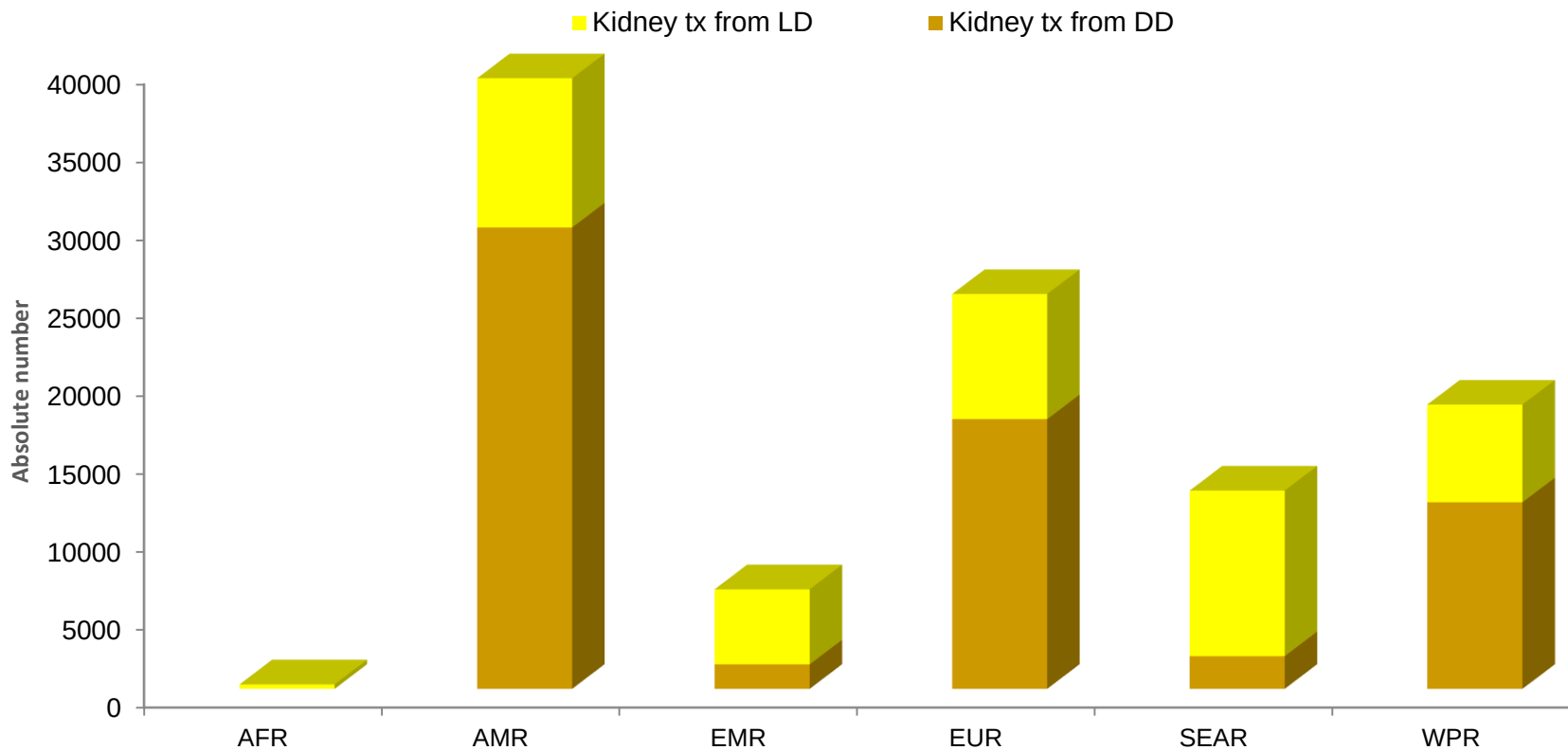
*Absolute number
(pmp);
% kidney tx from
deceased donors*



*Rates (pmp) are calculated by applying the population of the **responding** countries*



Kidney transplants by WHO regions 2022

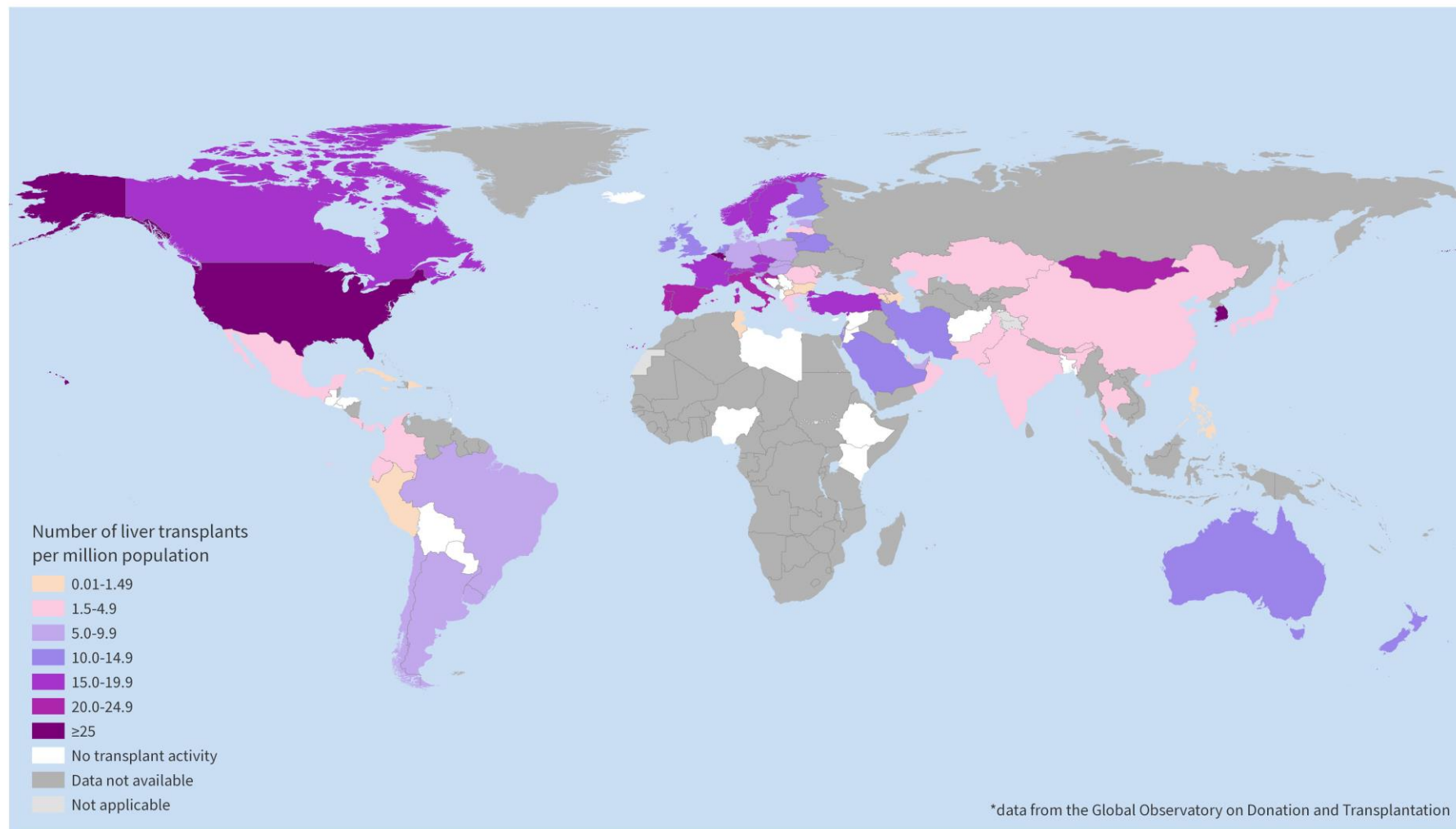


KIDNEY TX, absolute number (pmp)*	286 (0.7)	39 196 (39.8)	6 364 (13.7)	25 329 (36.7)	12 696 (7.7)	18 219 (10.2)
% from deceased donors	0	76	25	68	16	66
Countries with kidney tx activity/ countries reporting to the GODT (total countries in the region)	3/3 (46)	22/22 (35)	12/12 (22)	42/43 (53)	3/3 (11)	8/8 (27)
Kidney tx centres (millions inhabitants/centre)**	17 (23.2)	867 (1.1)	128 (3.6)	398 (1.7)	624 (2.6)	430 (4.2)

*Rates (pmp) are
calculated by applying
the population of the
responding countries

** Million inhabitants per
transplant centre are
calculated by applying
the population of the
responding countries

Liver transplantation activities, 2022*



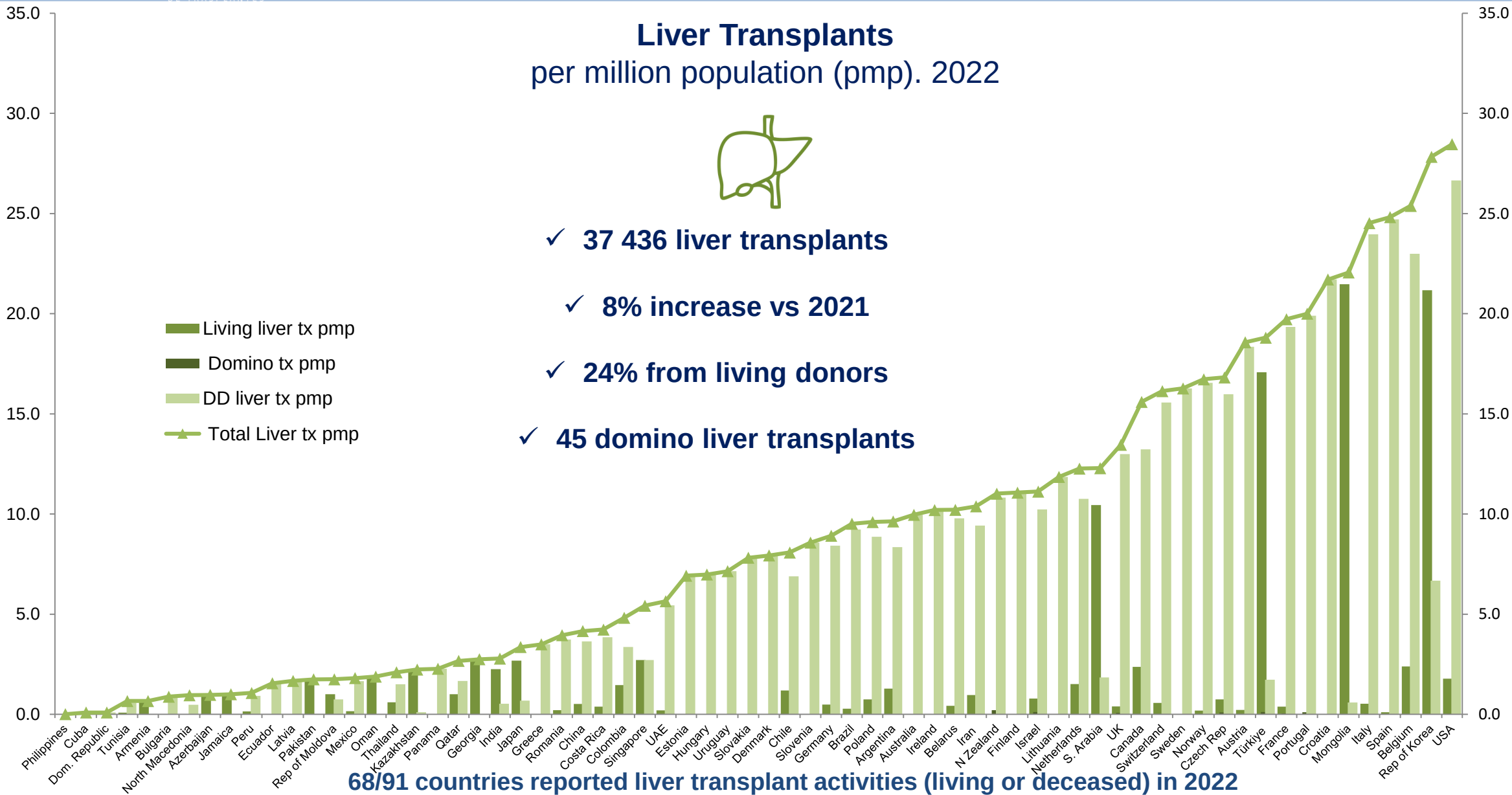
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Liver Transplants per million population (pmp). 2022



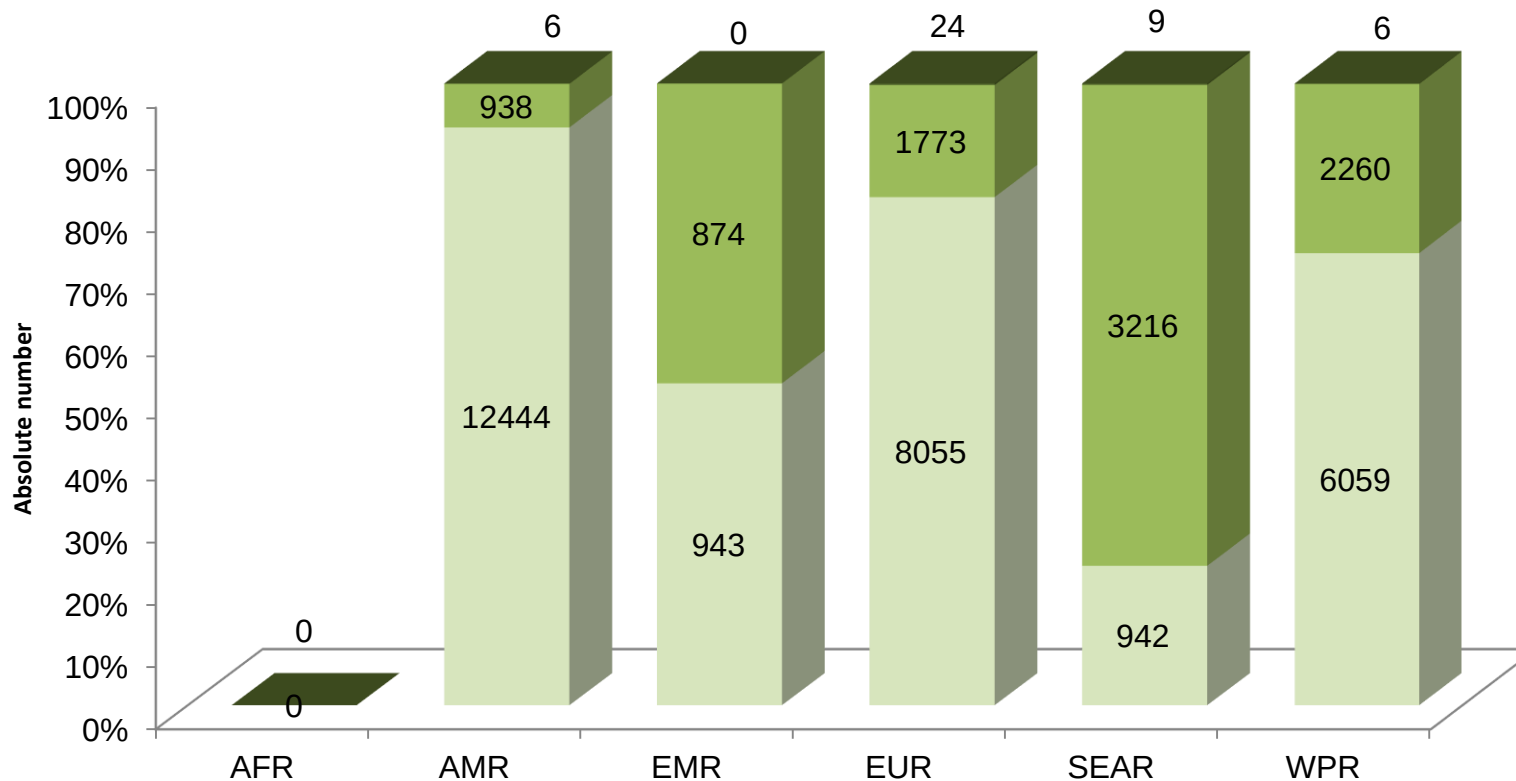
- ✓ 37 436 liver transplants
- ✓ 8% increase vs 2021
- ✓ 24% from living donors
- ✓ 45 domino liver transplants



DOMINO tx Liver tx from LD Liver tx from DD



Liver transplants by WHO Regions 2022

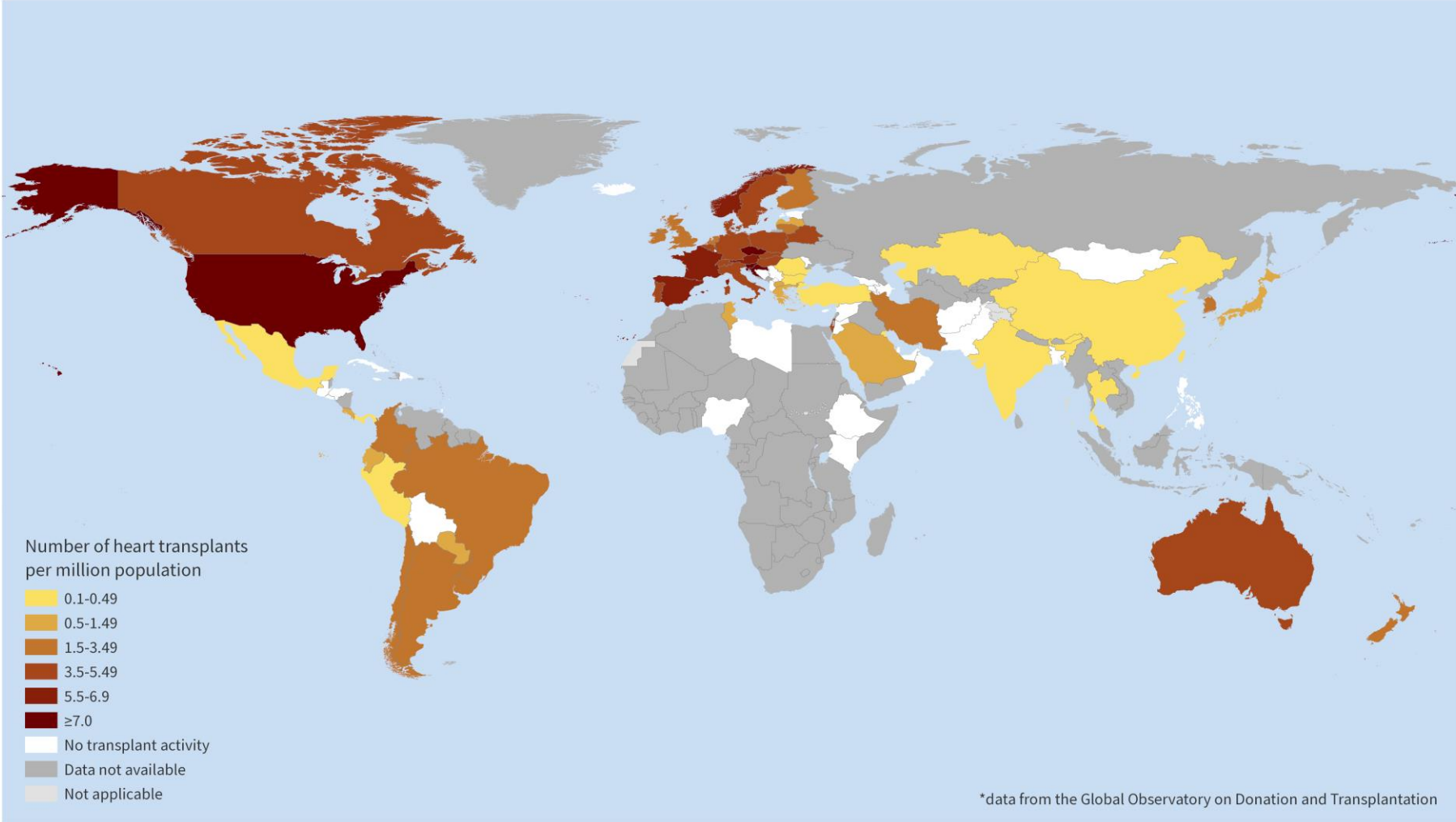


LIVER TX, absolute number (pmp)*	0 (0.0)	13 387 (13.6)	1 817 (3.9)	9 840 (14.3)	4 067 (2.5)	8 325 (4.7)
% from deceased donors	0	88	59	82	19	71
Countries with liver tx activity/ countries reporting to the GODT (total countries in the region)	0/3 (46)	15/22 (35)	7/12 (22)	36/43 (53)	2/3 (11)	8/8 (27)
Liver tx centres (millions inhabitants/centre)**	0	404 (2.4)	35 (13.2)	229 (3.0)	247 (6.7)	231 (7.7)

*Rates (pmp) are
calculated by applying
the population of the
responding countries

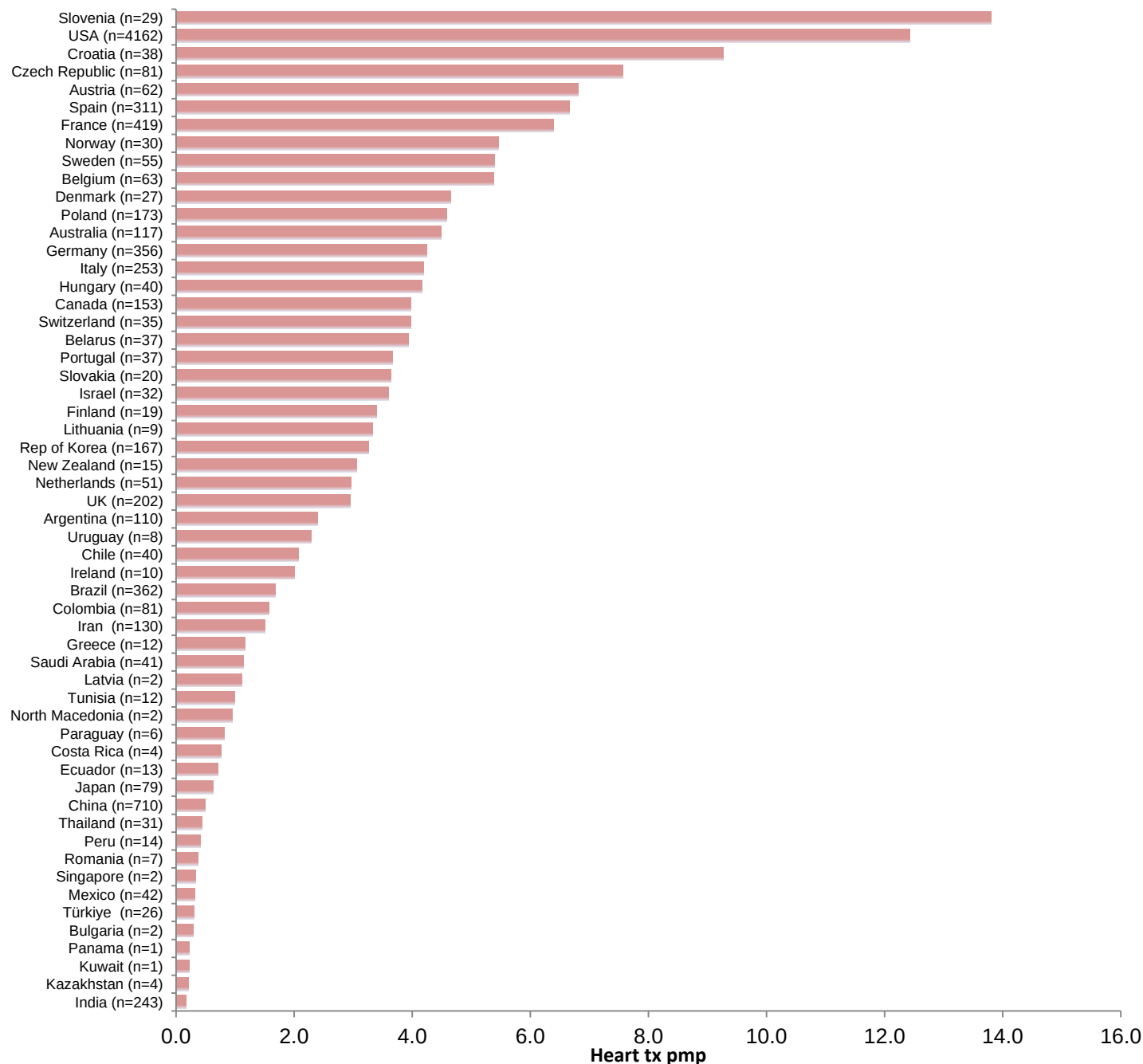
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Heart transplantation activities, 2022*



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Heart transplants per million population (pmp) 2022



✓ 8 988 heart transplants

✓ 7 % increase vs 2021

56/91 countries reported heart
transplant activities in 2022

Heart transplants by WHO Regions 2022

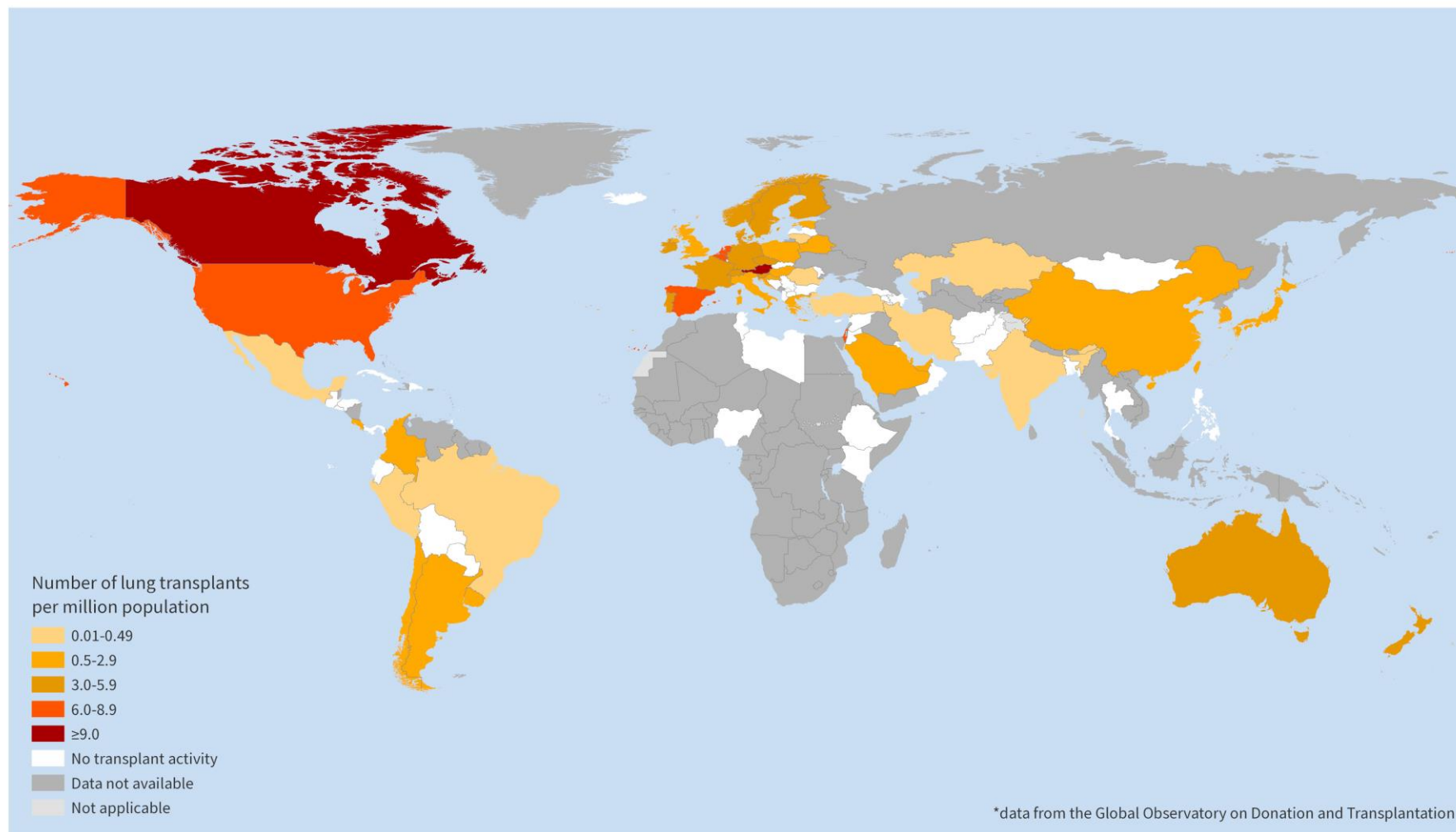


WHO Region	Heart transplants (pmp)*	Paediatric Heart transplants (pmp) (<18 years)	Countries with any heart tx activity/countries reporting to GODT (countries in the region)	Heart transplant centres (million inhabitants/centre)**
AFR	0 (0.0)	0 (0.0)	0/3 (46)	0
AMR	4 996 (5.1)	598 (0.6)	13/22 (35)	338 (2.9)
EMR	184 (0.4)	45 (0.1)	4/12 (22)	21 (22.1)
EUR	2 444 (3.5)	244 (0.4)	31/43 (53)	155 (4.4)
SEAR	274 (0.2)	29 (0.0)	2/3 (11)	168 (9.8)
WPR	1 090 (0.6)	98 (0.1)	6/8 (27)	154 (11.6)

*Rates (pmp) are calculated by applying the population of the responding countries

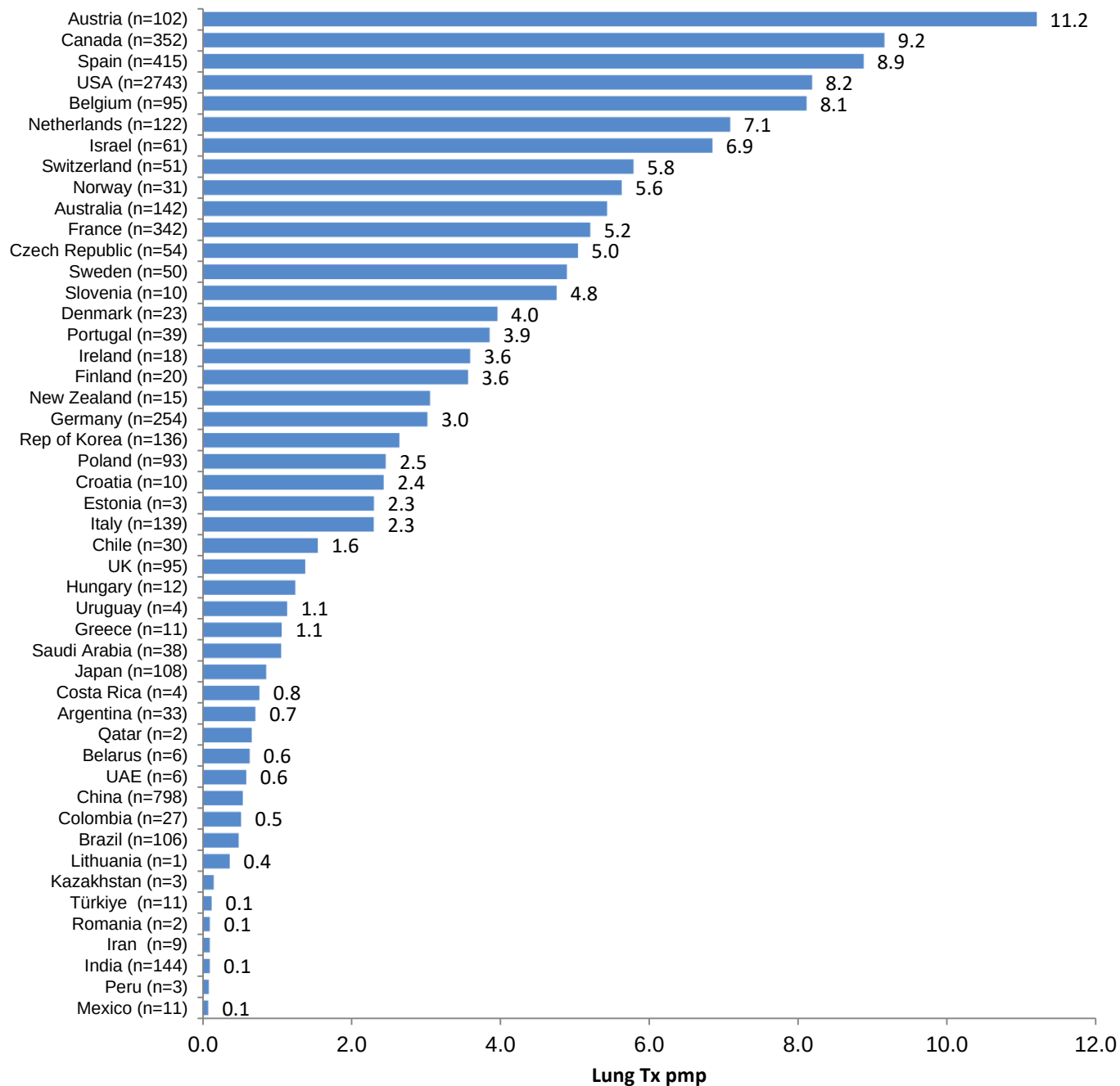
** Million inhabitants per transplant centre are calculated by applying the population of the responding countries

Lung transplantation activities, 2022*



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Lung transplants per million population (pmp) 2022



- ✓ 6 784 lung transplants
- ✓ 5 % increase vs 2021
- ✓ 14 living lung transplants (0.2%)

48/91 countries reported lung
transplant activities in 2022

Lung transplants by WHO regions 2022

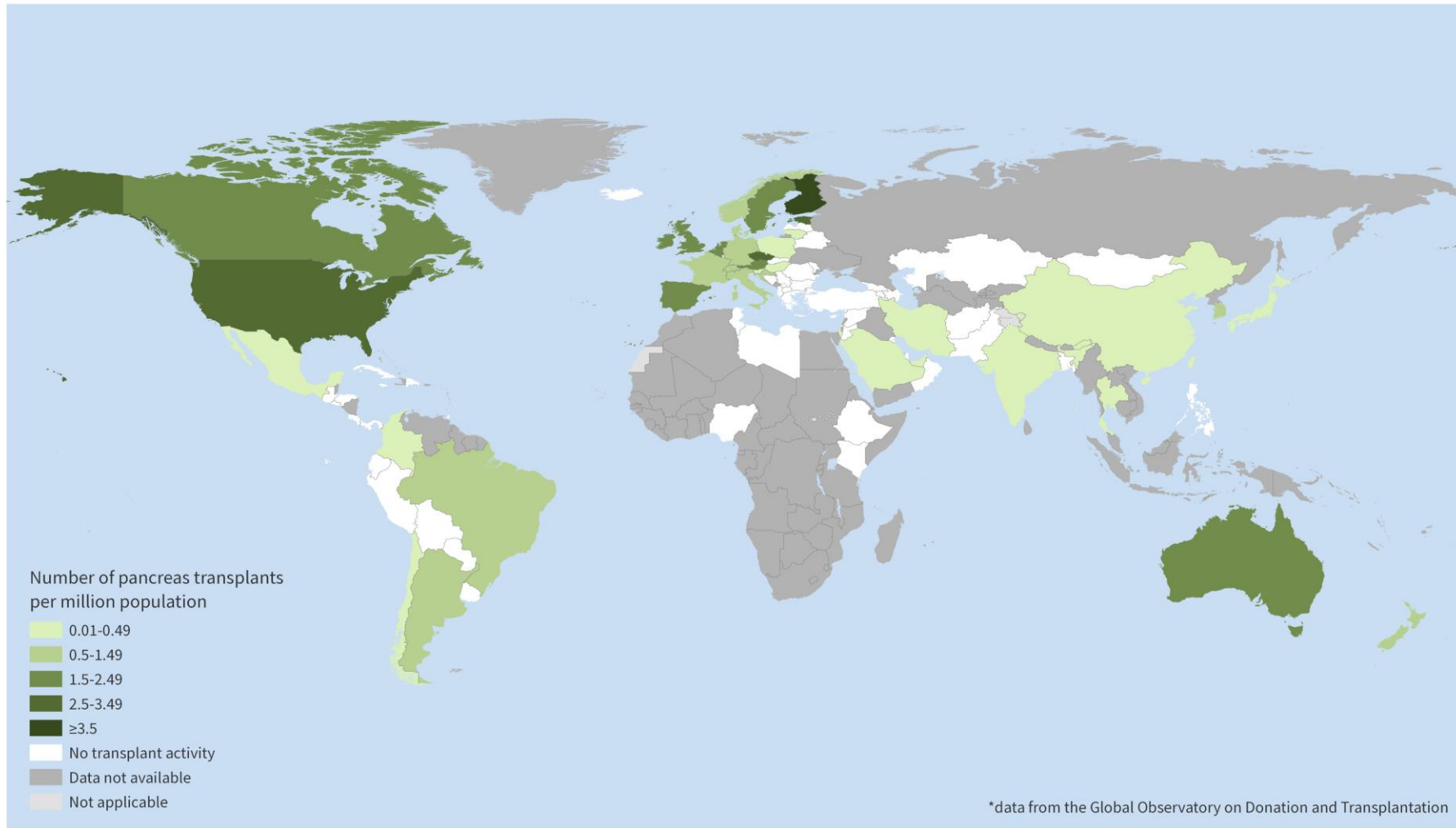


WHO Region	Lung transplants (pmp)*	Paediatric Lung transplants (pmp) (<18 years)	Countries with any lung tx activity/countries reporting to GODT (countries in the region)	Lung transplant centres (million inhabitants/centre)**
AFR	0 (0.0)	0 (0.0)	0/3 (46)	0
AMR	3 313 (3.4)	32 (0.0)	10/22 (35)	129 (7.6)
EMR	55 (0.1)	4 (0.0)	4/12 (22)	8 (58.0)
EUR	2 073 (3.0)	36 (0.1)	28/43 (53)	92 (7.5)
SEAR	144 (0.1)	4 (0.0)	1/3 (11)	95 (17.3)
WPR	1 199 (0.7)	26 (0.0)	5/8 (27)	123 (14.5)

*Rates (pmp) are calculated by applying the population of the responding countries

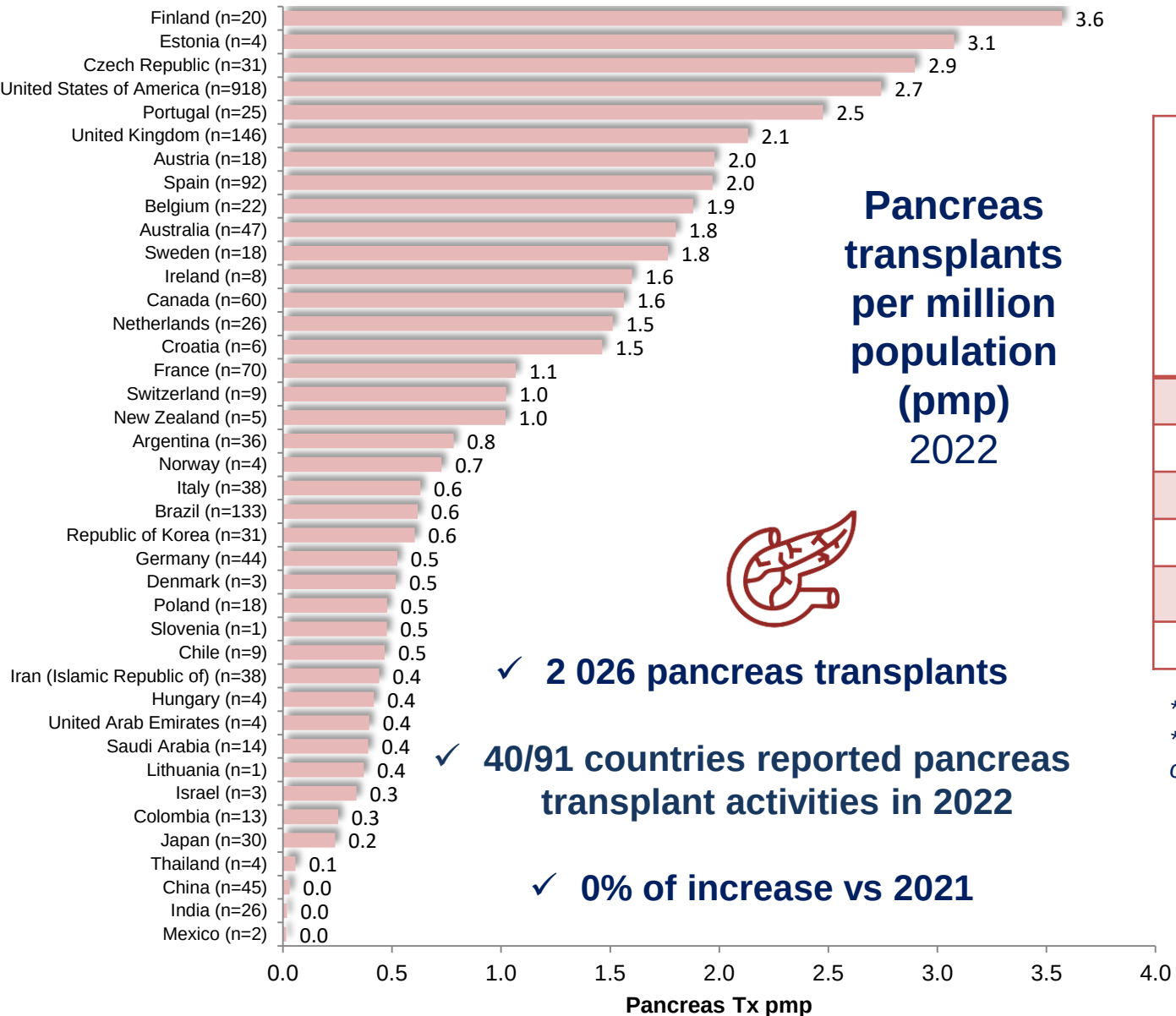
** Million inhabitants per transplant centre are calculated by applying the population of the responding countries

Pancreas transplantation activities, 2022*



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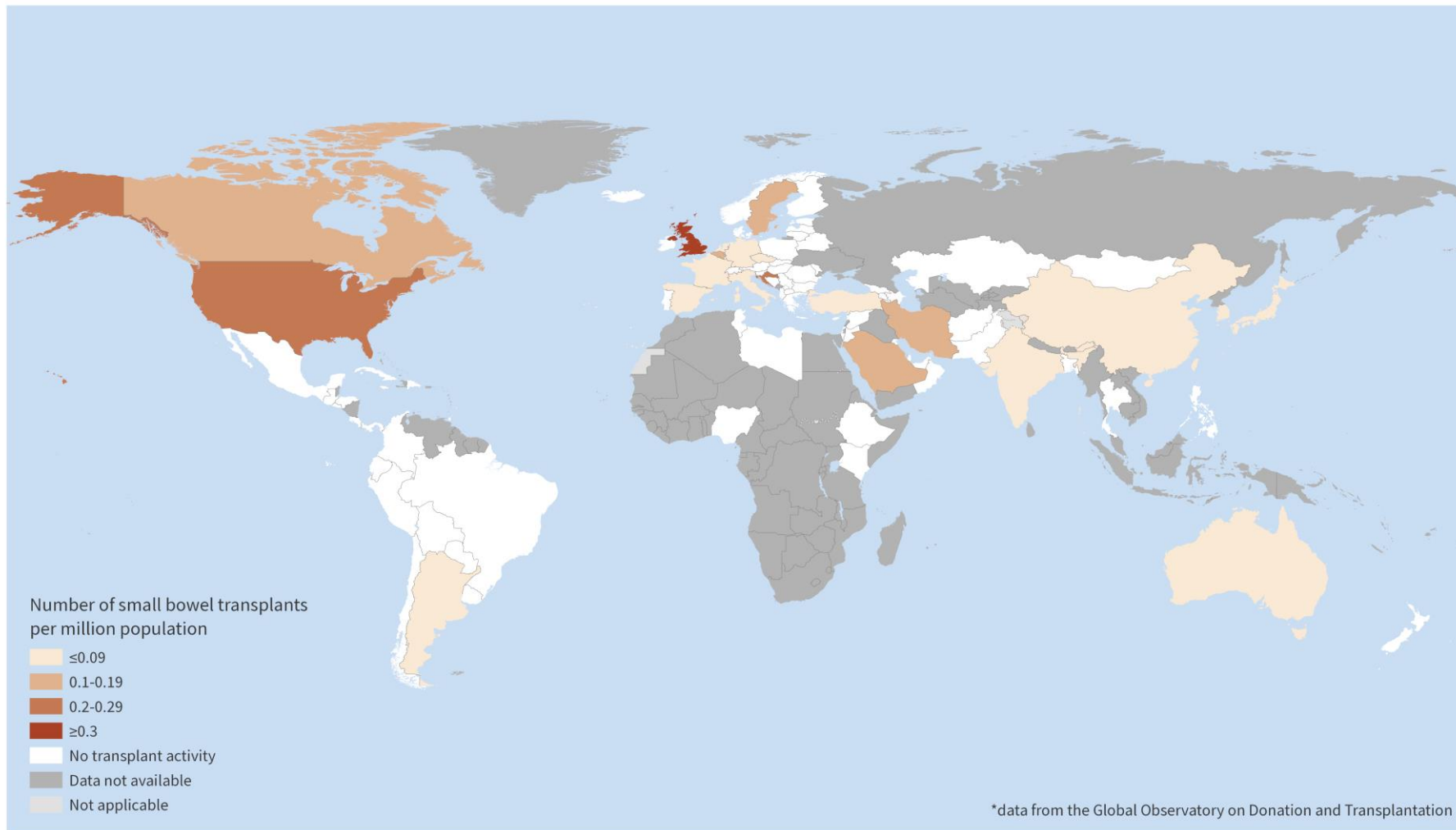
Transplants by WHO regions 2022

WHO Region	Pancreas Transplants (pmp)*	countries with any pancreas tx activity/ countries reporting to GODT (countries in the region)	Pancreas tx centres (million inhabitants / centre)**
AFR	0 (0.0)	0/3 (46)	0
AMR	1 171 (1.2)	7/22 (35)	218 (4.5)
EMR	56 (0.1)	3/12 (22)	10 (46.4)
EUR	611 (0.9)	23/43 (53)	122 (5.7)
SEAR	30 (0.0)	2/3 (11)	60 (27.4)
WPR	158 (0.1)	5/8 (27)	129 (13.8)

*Rates (pmp) are calculated by applying the population of the responding countries

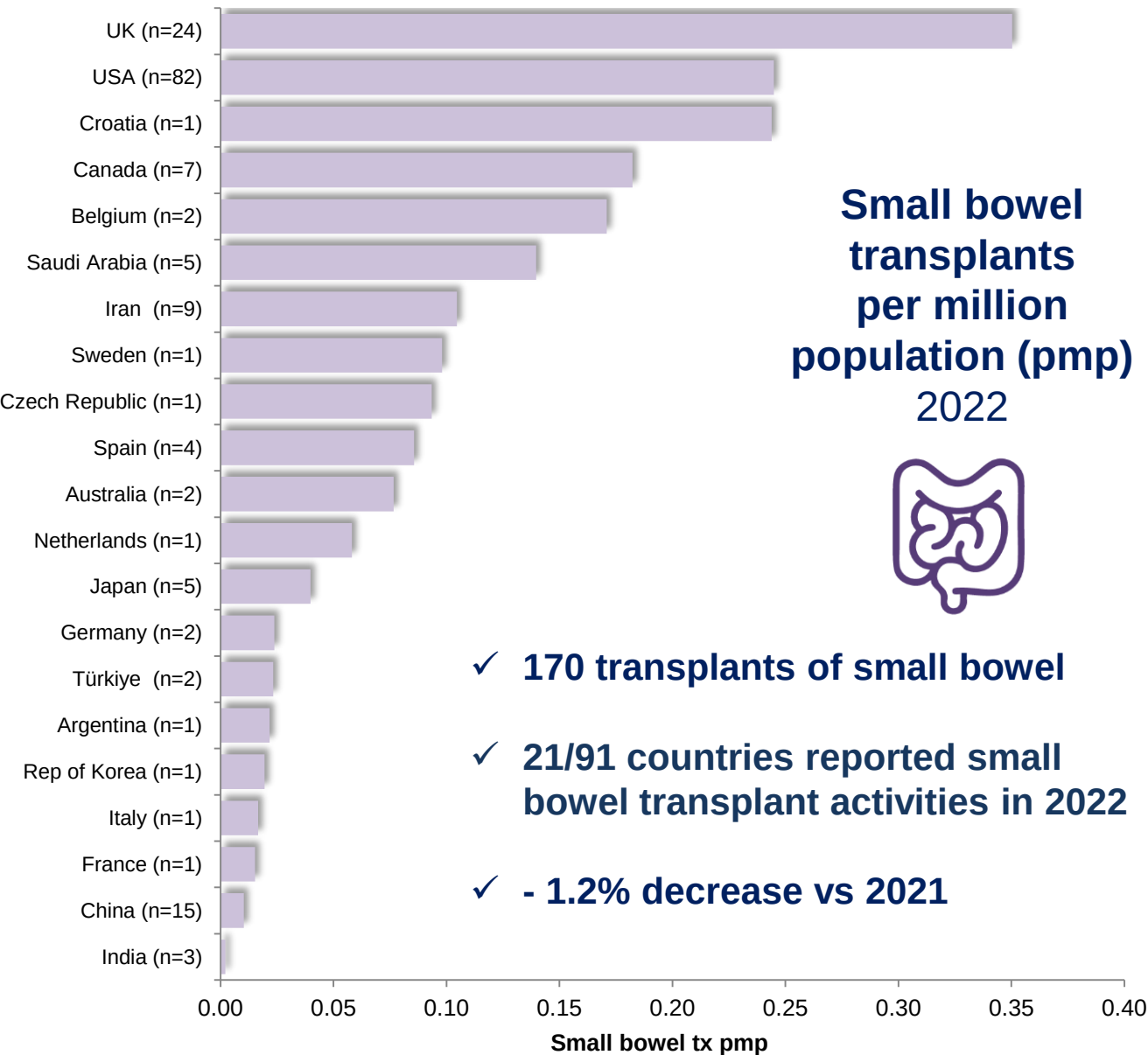
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Small bowel transplantation activities, 2022*



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Map Creation Date: **04 September 2023**



Transplants by WHO region 2022

WHO Region	Small bowel transplants (pmp)*	Countries with any S.B tx activity/ countries reporting to GODT (countries in the region)	S.B tx centres (million inhabitants/ centre)**
AFR	0 (0.0)	0/3 (46)	0
AMR	90 (0.1)	3/22 (35)	43 (22.9)
EMR	14 (0.0)	2/12 (22)	2 (231.8)
EUR	40 (0.1)	11/43 (53)	47 (14.7)
SEAR	3 (0.0)	1/3 (11)	29 (56.7)
WPR	23 (0.0)	4/8 (27)	78 (22.9)

*Rates (pmp) are calculated by applying the population of the responding countries

** Million inhabitants per transplant centre are calculated by applying the population of the responding countries



EVOLUTION OF ACTIVITIES BY WHO REGION

	Africa				America				Eastern Mediterranean				Europe				South East Asia				Western Pacific			
	2020	2021	2022	% Var.	2020	2021	2022	% Var.	2020	2021	2022	% Var.	2020	2021	2022	% Var.	2020	2021	2022	% Var.	2020	2021	2022	% Var.
Deceased donors	0 (0.0)	0 (0.0)	0 (0.0)	(-)	17 510 (17.8)	18 994 (19.3)	20 946 (21.3)	10.3	741 (1.6)	1 158 (2.4)	1 251 (2.7)	8	10 732 (12.4)	10 917 (16.2)	11 649 (16.9)	6.7	764 (0.5)	776 (0.5)	1 244 (0.8)	60.3	6 355 (3.5)	6 311 (3.5)	6 702 (3.8)	6.2
DBD	0 (0.0)	0 (0.0)	0 (0.0)	(-)	14 090 (14.3)	14 572 (14.8)	15 899 (16.2)	9.1	741 (1.6)	1 158 (2.4)	1 251 (2.7)	8.0	9 053 (10.5)	8 925 (13.2)	9 166 (13.3)	2.7	760 (0.5)	776 (0.5)	1 244 (0.8)	60.3	3 292 (1.8)	4 180 (2.3)	4 688 (2.6)	12.2
DCD	0 (0.0)	0 (0.0)	0 (0.0)	(-)	3 420 (3.5)	4 442 (4.5)	5047 (5.1)	13.6	0 (0.0)	0 (0.0)	0 (0.0)	(-)	1 679 (1.9)	1 992 (3.0)	2 843 (4.1)	42.7	4 (0.0)	0 (0.0)	0 (0.0)	(-)	3 063 (1.7)	2 131 (1.2)	2 014 (1.1)	- 5.5
Kidney Tx	413 (0.9)	359 (0.9)	286 (0.7)	-20.3	32 957 (33.5)	36 232 (36.9)	39 196 (39.8)	8.2	2 520 (5.4)	4 829 (9.9)	6 364 (13.7)	31.8	22 006 (25.4)	23 593 (34.9)	25 329 (36.7)	7.4	6 661 (4.1)	10 003 (6.1)	12 696 (7.7)	26.9	16 446 (9.1)	17 516 (9.7)	18 219 (10.2)	4.0
DDKT	0 (0.0)	0 (0.0)	0 (0.0)	(-)	25 841 (26.3)	27 317 (27.8)	29 607 (30.1)	8.4	940 (2.0)	1 312 (2.7)	1 564 (3.4)	19.2	16 023 (18.5)	16 229 (24.0)	17 286 (25.1)	6.5	1 192 (0.7)	1 247 (0.8)	2 088 (1.3)	67.4	11 266 (6.2)	11 260 (6.2)	11 944 (6.7)	6.1
LDKT	413 (0.9)	359 (0.9)	286 (0.7)	-20.3	7 116 (7.2)	8 915 (9.1)	9 589 (9.7)	7.6	1 580 (3.4)	3 517 (7.2)	4 800 (10.4)	36.5	5 983 (6.9)	7 364 (10.9)	8 043 (11.7)	9.2	5 469 (3.3)	8 756 (5.3)	10 608 (6.5)	21.2	5 180 (2.9)	6 256 (3.5)	6 275 (3.5)	0.3
Liver Tx	2 (0.0)	0 (0.0)	0 (0.0)	(-)	12 335 (12.5)	12 790 (13.0)	13 387 (13.6)	4.7	930 (2.0)**	1 455 (3.0)	1 817 (3.9)	24.9	9 257 (10.7)	9 333 (13.8)	9 840 (14.3)	5.4	1 916 (1.2)	2 958 (1.8)	4 067 (2.5)	37.5	8 175 (4.5)	8 158 (4.5)	8 325 (4.7)	2.0
DDLT	0 (0.0)	0 (0.0)	0 (0.0)	(-)	11 467 (11.7)	11 926 (12.1)	12 444 (12.7)	4.3	60 (0.1)	854 (1.8)	943 (2.0)	10.4	7 591 (8.8)	7 643 (11.3)	8 055 (11.7)	5.4	396 (0.2)	558 (0.3)	842 (0.5)	50.9	5 772 (3.2)	5 758 (3.2)	6 059 (3.4)	5.2
LDLT	2 (0.0)	0 (0.0)	0 (0.0)	(-)	862 (0.9)	859 (0.9)	938 (1.0)	9.2	264 (0.6)	601 (1.2)	874 (1.9)	45.4	1 657 (1.9)	1 684 (2.5)	1 773 (2.6)	5.3	1 518 (0.9)	2 398 (1.5)	3216 (2.0)	34.1	2 388 (1.3)	2 388 (1.3)	2 260 (1.3)	-5.4
Heart Tx	0 (0.0)	0 (0.0)	0 (0.0)	(-)	4 419 (4.5)	4 599 (4.7)	4 996 (5.1)	8.6	98 (0.2)	192 (0.4)	184 (0.4)	-4.2	2 515 (2.9)	2 350 (3.5)	2 444 (3.5)	4.0	122 (0.1)	175 (0.1)	274 (0.2)	56.6	949 (0.5)	1 093 (0.6)	1 090 (0.6)	-0.3
Lung Tx	0 (0.0)	0 (0.0)	0 (0.0)	(-)	3 048 (3.1)	3 096 (3.2)	3 313 (3.4)	7.0	24 (0.1)	43 (0.1)	55 (0.1)	27.9	1 880 (2.2)	1 964 (2.9)	2 073 (3.0)	5.5	68 (0.0)	134 (0.1)	144 (0.1)	7.5	922 (0.5)	1 233 (0.7)	1 199 (0.7)	-2.8
Pancreas Tx	0 (0.0)	0 (0.0)	0 (0.0)	(-)	1 226 (1.2)	1 234 (1.3)	1171 (1.2)	- 5.1	26 (0.1)	58 (0.1)	56 (0.1)	-3.4	593 (0.7)	609 (0.9)	611 (0.9)	0.3	15 (0.0)	20 (0.01)	30 (0.0)	50.0	110 (0.1)	104 (0.06)	158 (0.1)	51.9
Small bowel Tx	0 (0.0)	0 (0.0)	0 (0.0)	(-)	99 (0.1)	108 (0.1)	90 (0.1)	- 16.7	7 (0.0)	9 (0.02)	14 (0.0)	55.6	40 (0.05)	46 (0.07)	40 (0.1)	-13.0	7 (0.0)	5 (0.0)	3 (0.0)	-40.0	5 (0.0)	4 (0.0)	23 (0.0)	47.5
Total organ Tx	415 (0.9)	359 (0.9)	286 (0.7)	-20.3	54 084 (55.0)	58 059 (59.1)	62 153 (63.2)	7.1	3 605 (7.7)	6 586 (13.6)	8 490 (18.3)	28.9	36 291 (41.9)	37 895 (56.1)	40 337 (68.7)	6.4	8 789 (5.4)	13 295 (8.1)	17 214 (10.5)	29.5	26 607 (14.7)	28 108 (15.5)	29 014 (16.2)	3.2

* Type of donor not reported in 606 Liver Tx, but included in the total Liver Tx

Note: Rates (pmp) are calculated by applying the population of the responding countries

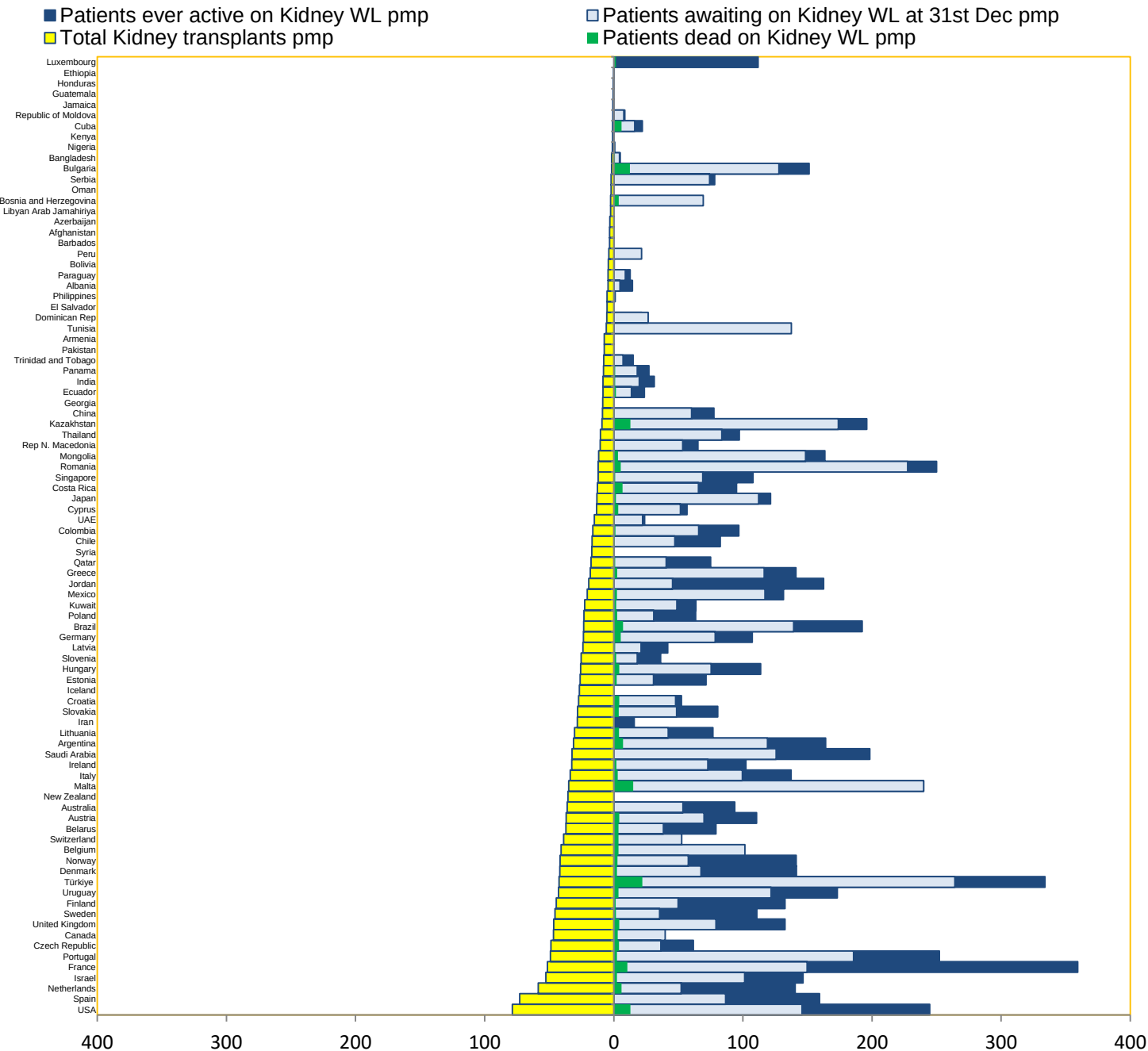
Global donation and transplantation activities from 2020 to 2022

	Global			
	2020	2021	2022	% Variation 2022 vs 2021
Deceased donors	36 102 (5.8)	38 156 (6.4)	41 792 (7.0)	9.5
DBD donors	27 936 (4.5)	29 611 (4.9)	32 248 (5.4)	8.9
DCD donors	8 166 (1.3)	8 545 (1.4)	9 544 (1.6)	11.7
Kidney Tx	81 003 (13.0)	92 532 (15.4)	102 090 (17.1)	10.3
DD Kidney Tx	55 262 (8.9)	57 365 (9.6)	62 489 (10.5)	8.9
LD Kidney Tx	25 741 (4.1)	35 167 (5.9)	39 601 (6.6)	12.6
Liver Tx	32 615 (5.2)	34 694 (5.8)	37 436 (6.3)	7.9
DD Liver Tx	25 286 (4.1)	26 739 (4.5)	28 343 (4.8)	6.0
LD Liver Tx	6 691 (1.1)	7 930 (1.3)	9 061 (1.5)	14.3
Heart Tx	8 103 (1.3)	8 409 (1.4)	8 988 (1.5)	6.9
Lung Tx	5 942 (1.0)	6 470 (1.1)	6 784 (1.1)	4.9
Pancreas Tx	1 970 (0.3)	2 025 (0.3)	2 026 (0.3)	0.0
Small bowel Tx	158 (0.03)	172 (0.03)	170 (0.0)	-1.2
Total organ Tx	129 791 (20.8)	144 302 (24.1)	157 494 (26.4)	9.1

**Rates (pmp) are calculated by applying the population of the responding countries*

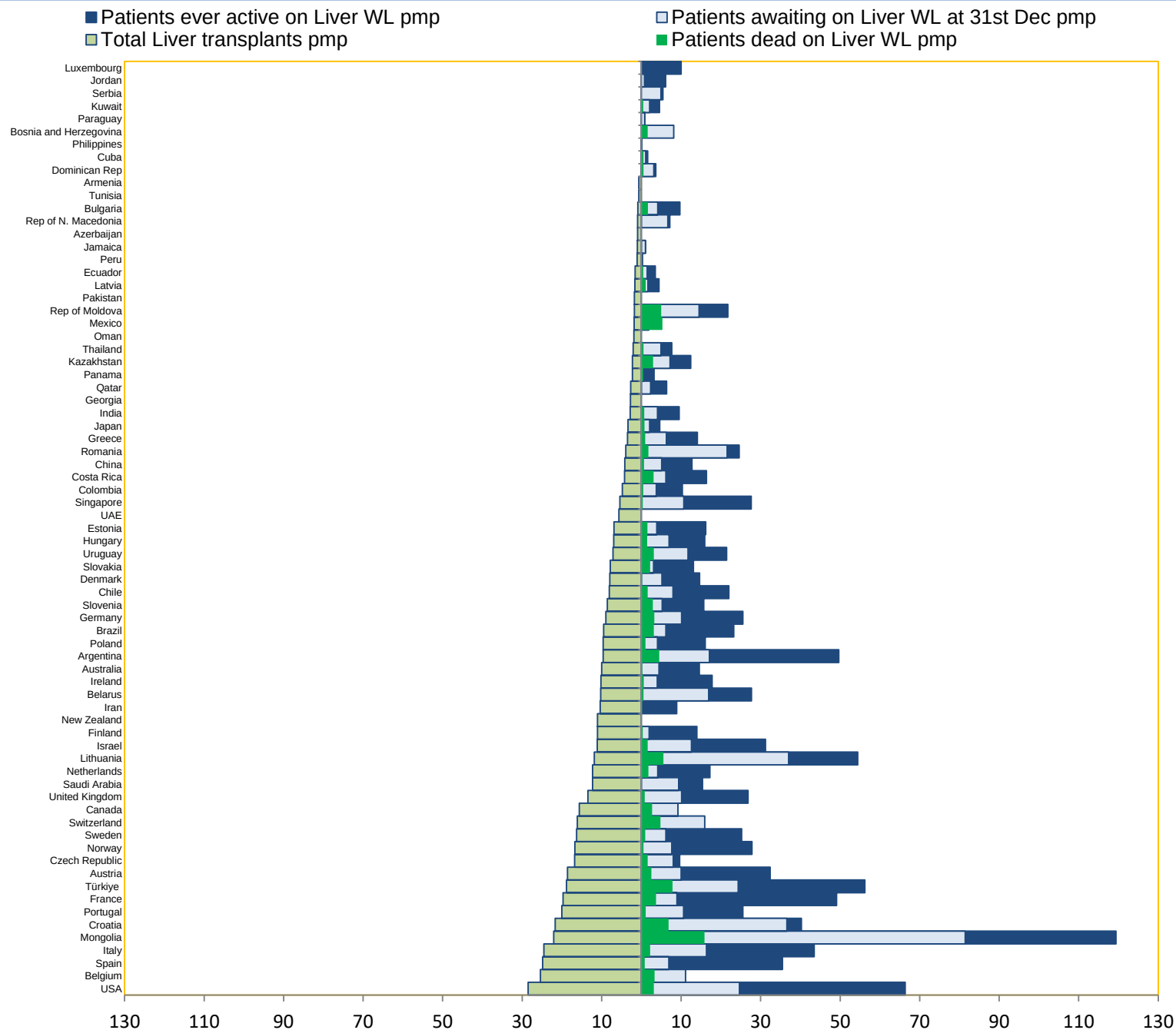


WAITING LISTS



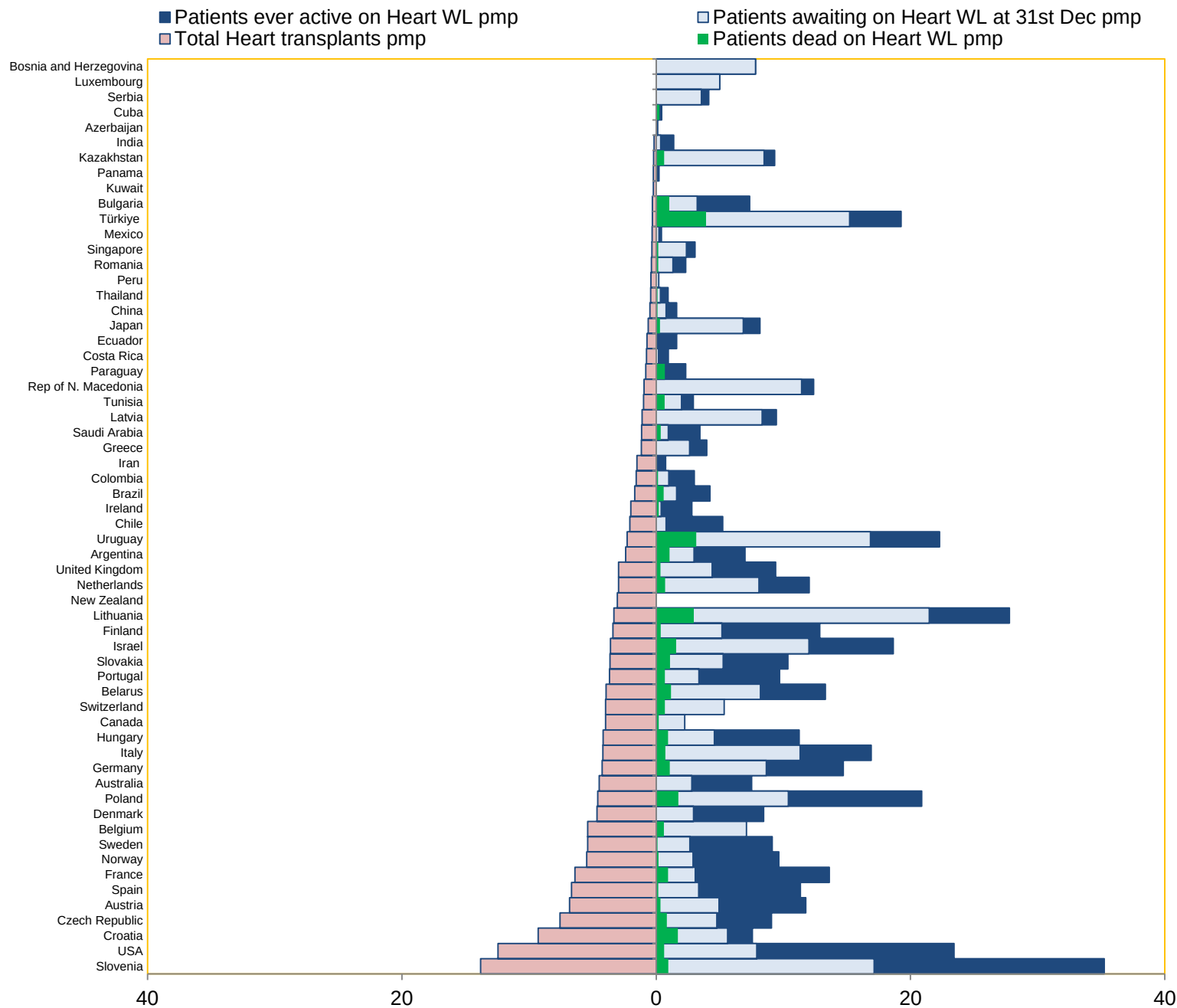
Patients on the Kidney WL *versus* Kidney transplants (pmp) 2022

N= 90 countries



Patients on the Liver WL *versus* Liver transplants (pmp) 2022

N= 73 countries

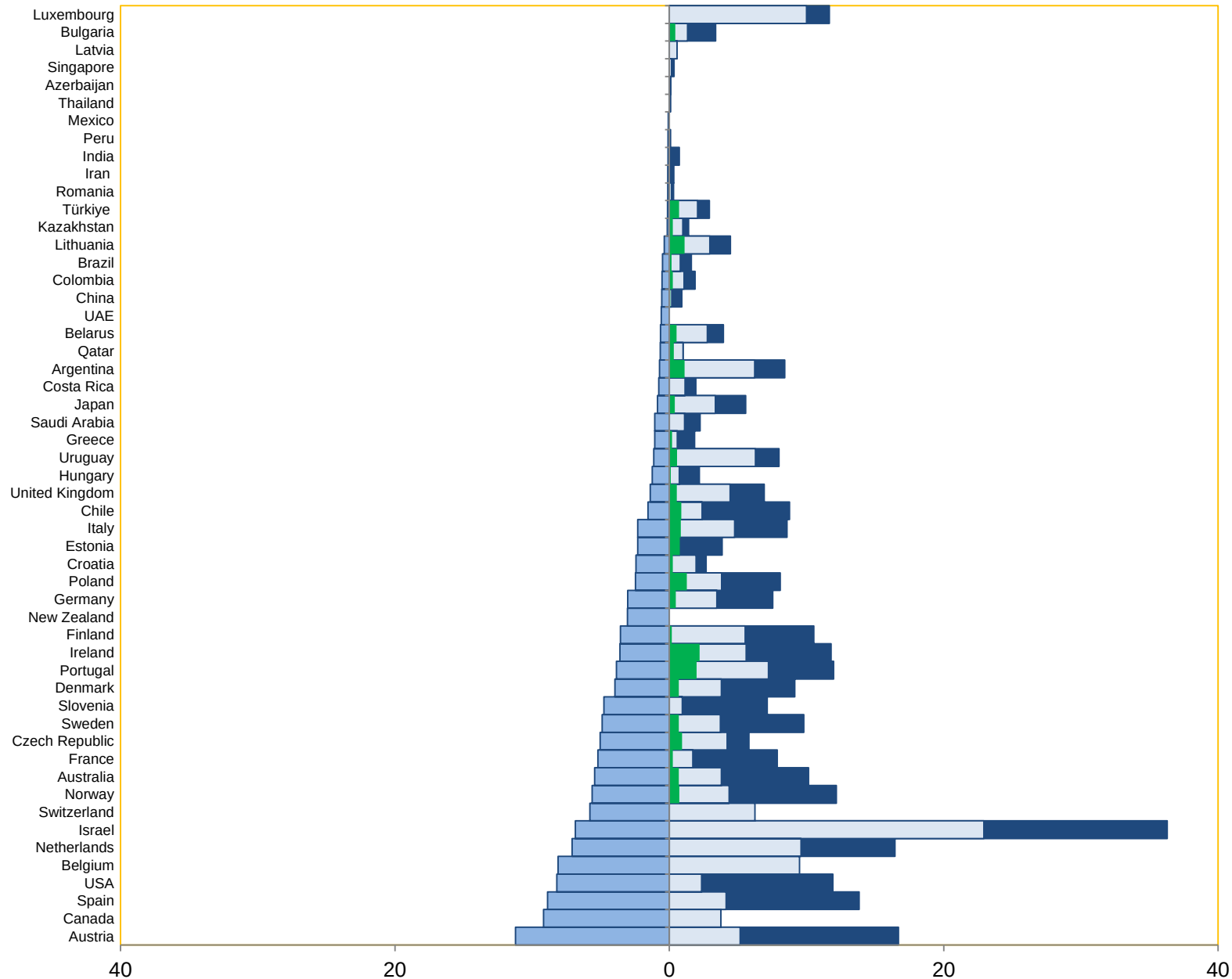


Patients on the Heart WL *versus* Heart transplants (pmp) 2022

N= 60 countries

■ Patients ever active on Lung WL pmp
■ Total Lung transplants pmp

■ Patients awaiting on Lung WL at 31st Dec pmp
■ Patients dead on Lung WL pmp



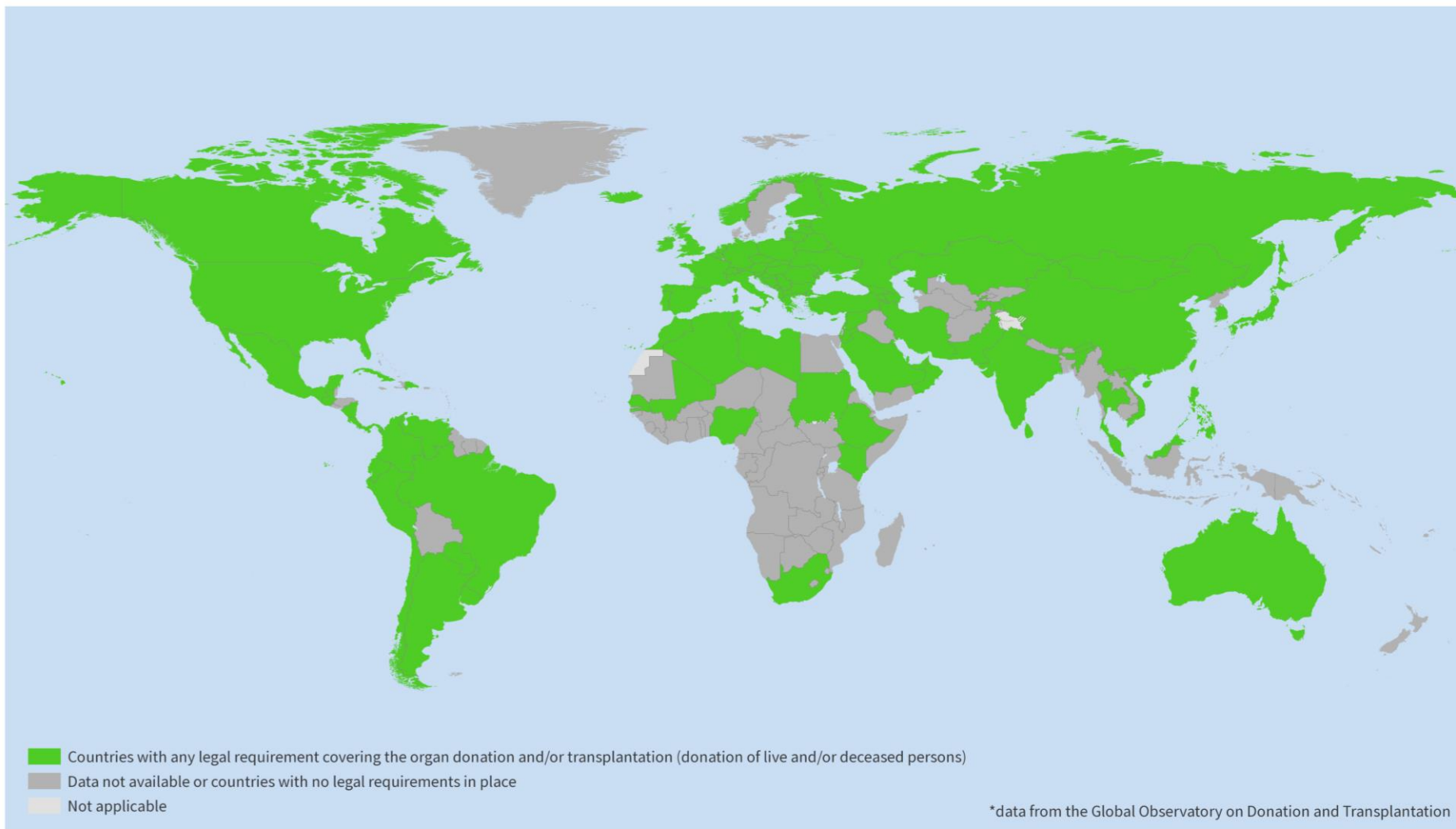
Patients on the Lung WL versus Lung transplants (pmp) 2022

N= 53 countries



LEGISLATION AND ORGANIZATION

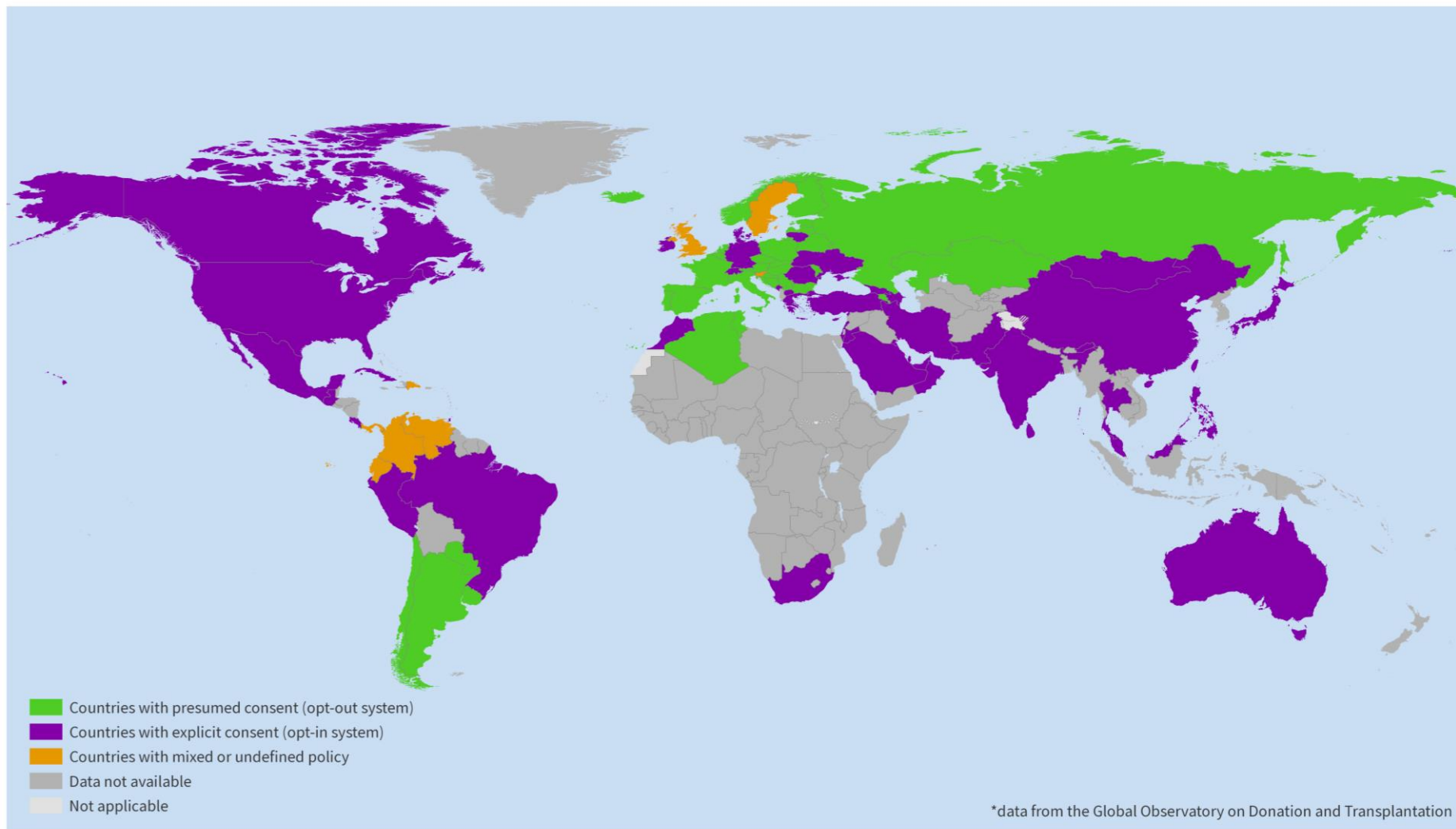
Global distribution of countries with legal frameworks for organ donation and /or transplantation*



The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: Global Observatory on Donation and Transplantation
Map Production: WHO GIS Centre for Health, DNA/DDI
Map Creation Date: **29 June 2022**

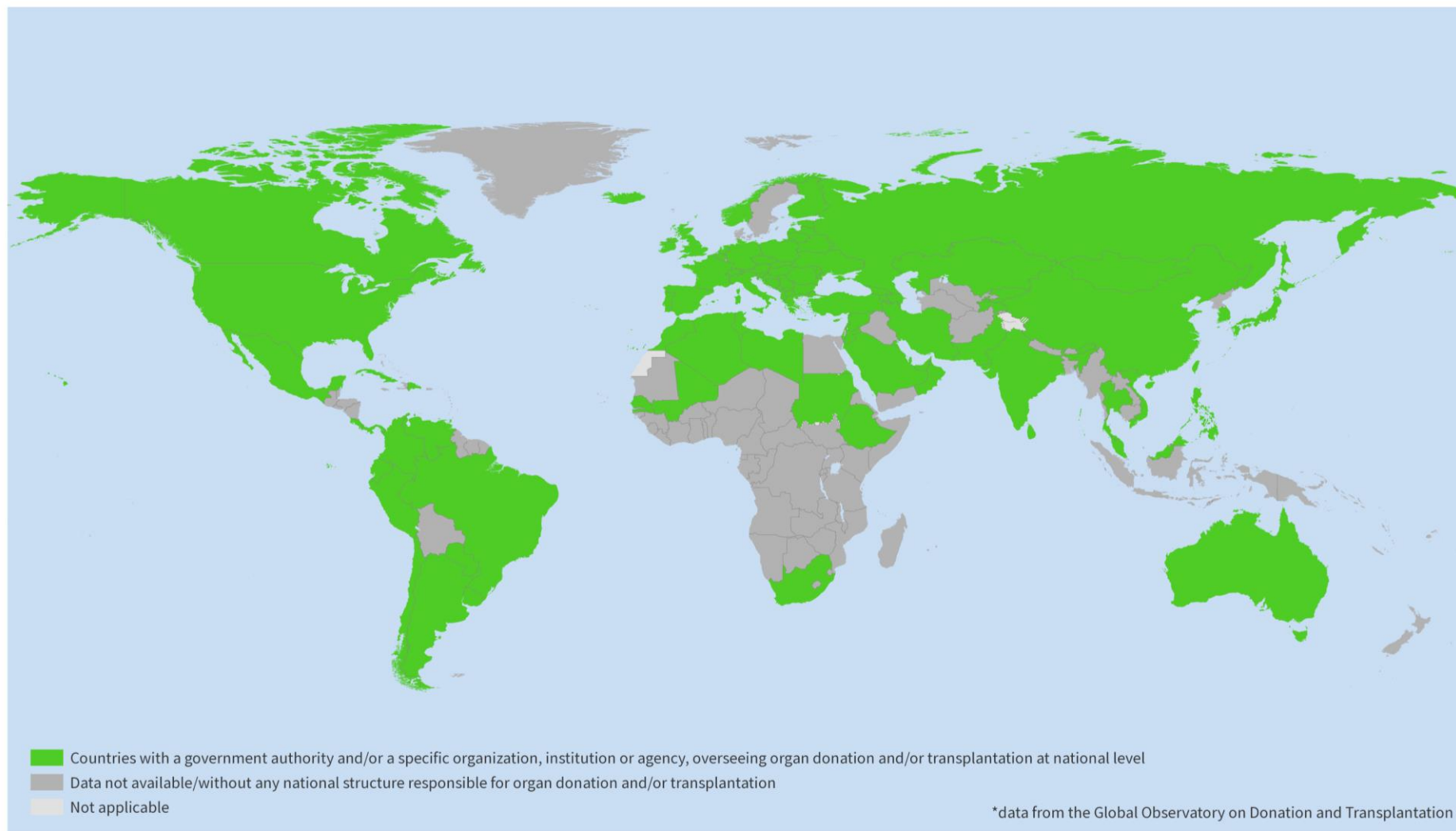
Global distribution of countries per type of consent for deceased organ donation*



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Data Source: Global Observatory on Donation and Transplantation
Map Production: WHO GIS Centre for Health, DNA/DDI
Map Creation Date: **30 June 2022**

Distribution of countries with national oversight on donation and/or transplantation*



The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: Global Observatory on Donation and Transplantation
Map Production: WHO GIS Centre for Health, DNA/DDI
Map Creation Date: **29 June 2022**

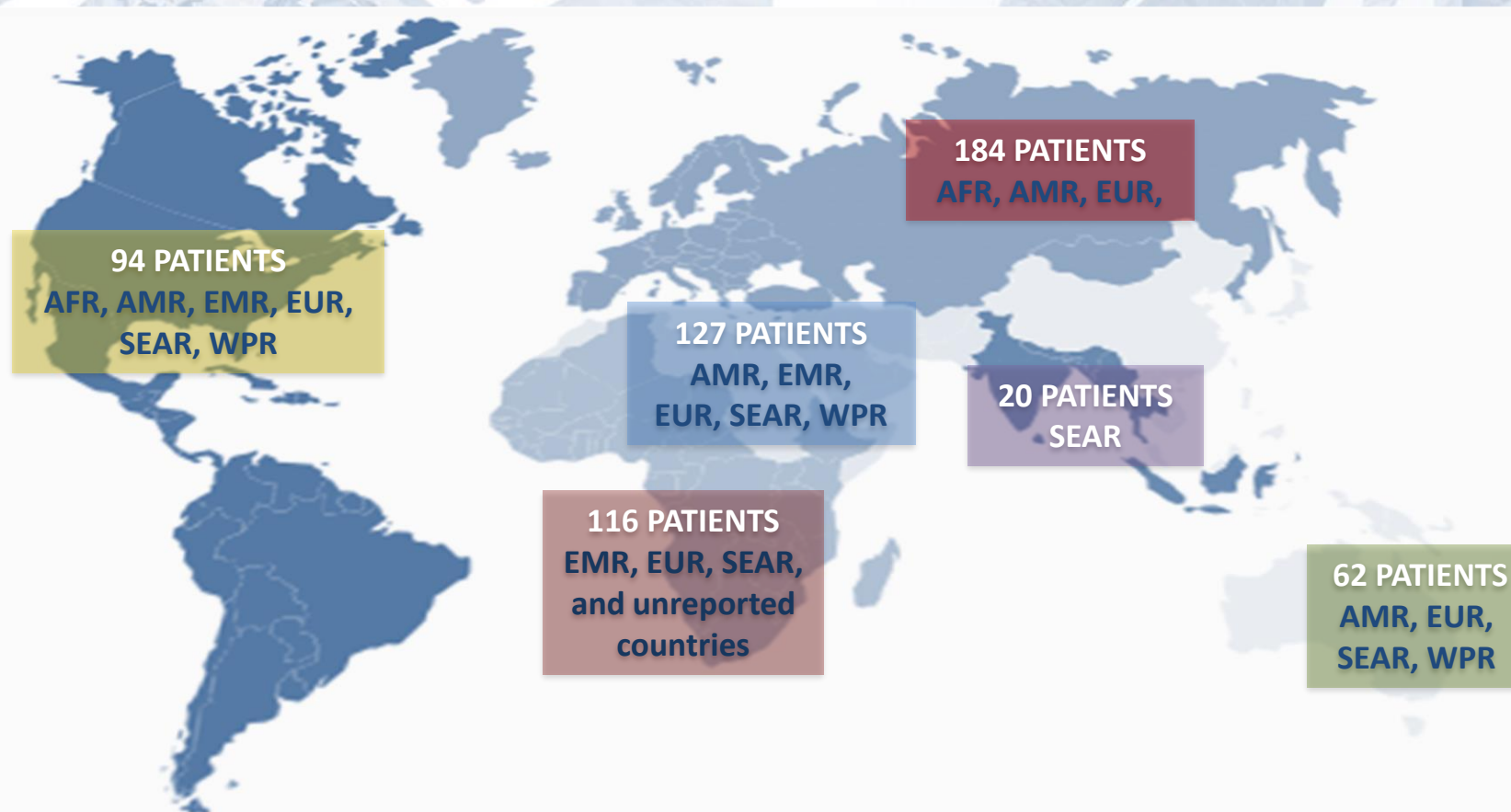


TRANSPLANTS PERFORMED ABROAD AND NON-RESIDENTS TRANSPLANTS

At least 600 patients from 31 countries travelled for transplantation abroad in 2022

Cases reported by the country of origin

46/91 countries were able to provide this information

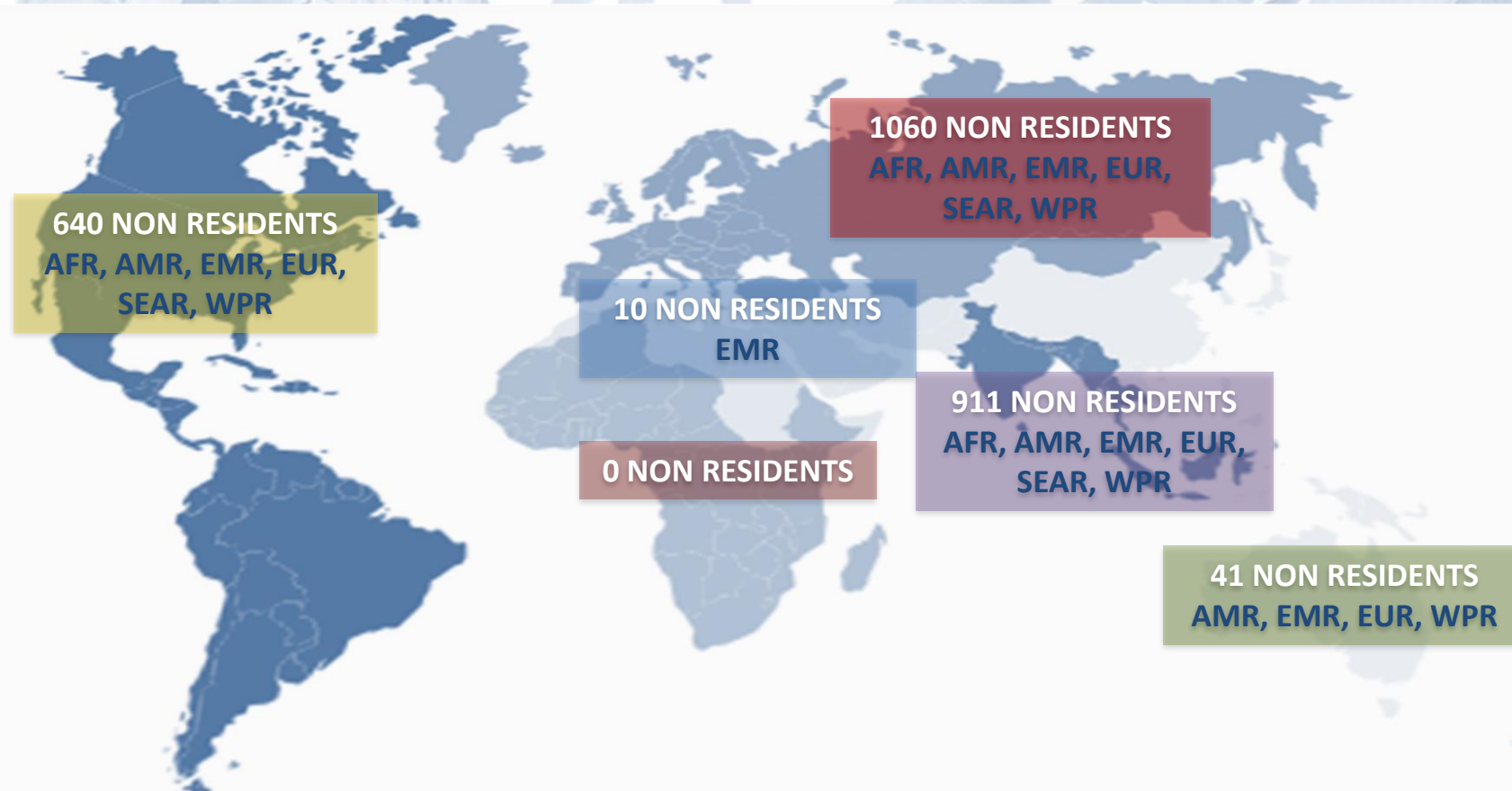


Note: Not all countries were able to provide detailed information. Therefore figures may be underestimated.

More than 2 600 non-resident patients from 22 countries were reported to be transplanted from a living (n=2086) or a deceased (n=577) donor in 2022

Cases reported by the country of destination

54/91 countries were able to provide this information



WHO-ONT Collaboration

The GODT is a collaborative effort of WHO and the ONT of Spain. It is running since 2007 and came up in response to the request of the World Health Assembly, in Resolutions WHA57.18 and WHA63.22, to collect global data on the practices, safety, quality, efficacy, epidemiology and ethical issues of allogeneic transplantation. This database collects data on global donation and transplantation practices, and it is recognized as a tool for ensuring transparency, equity and monitoring national transplant systems.

Methods and definitions

An *ad hoc* standardized questionnaire for activities related to organ donation and transplantation is annually distributed to the identified health authorities and national focal points contributing to the global database.

The definitions applied for the completion of the standardized questionnaire are derived from the WHO Global Glossary on Donation and Transplantation, which is accessible at <http://www.transplant-observatory.org/download/global-glossary/> or through the WHO website (<http://www.who.int/transplantation/activities/en/>).

Definitions and explanations about how to complete the questionnaire can be found at the Global Observatory on Donation and Transplantation website (<http://www.transplant-observatory.org/>).

Actual donor (=donor): a deceased person from whom at least one organ has been recovered for the purpose of organ transplantation.

DBD donor: a deceased donor whose death has been determined by neurological criteria.

DCD donor: a deceased donor whose death has been determined by circulatory criteria.

Domino Transplant: a procedure in which an organ is removed from one transplant candidate and immediately transplanted into a second patient, with the first patient receiving a new organ from a deceased donor.

HDI: A composite index measuring average achievement in three basic dimensions of human development—a long and healthy life, knowledge and a decent standard of living. See [Human Development Report 2021/2022](#).

Transplants are counted as those performed only within the country. Counts for multiorgan or double organ transplants are counted as follows:

- ✓ One double kidney transplant is considered as one transplant.
- ✓ One heart-lung transplant is counted as one lung transplant and one heart transplant.
- ✓ One double lung transplant is considered as one transplant.
- ✓ One kidney-pancreas transplant is counted as one kidney transplant and one pancreas transplant.

Counts for the number of recipients transplanted: a recipient of more than one organ is counted as one recipient.

Specific indicators have been added to the questionnaire along the years, in order to provide further information about the donation and transplantation activities performed around the globe.

The data provided correspond to the period from January 1st to December 31st 2022. Only countries reporting data for 2022 have been included in this report.

Comparisons 2020 vs 2021 vs 2022 have been made with the most up to date data collected in the database (last accessed: October 2023).

To calculate rates per million population, the State of World Population reports, from the United Nations Population Fund (UNFPA), has been used as the source to estimate the population size. Figures for Human Development Index (HDI) are obtained from the United Nations Development Programme (UNDP), [Human Development Report 2021/2022](#).

Data were analysed using descriptive statistics. Statistical analysis was performed with SPSS software (version 25.0) and the Excel tool was used for the creation of bar charts.

Acronyms

- ✓ **DBD:** Actual donors after the neurologic determination of death
 - ✓ **DCD:** Actual donors after the circulatory determination of death
 - ✓ **DD:** Actual deceased organ donors
 - ✓ **LD:** Living organ donors
 - ✓ **GODT:** Global Observatory on Donation and Transplantation
 - ✓ **KT:** Kidney transplants
 - ✓ **LT:** Liver transplants
-
- ✓ **ONT:** Organización Nacional de Trasplantes, Spain
 - ✓ **pmp:** per million population
 - ✓ **Tx:** Transplants
 - ✓ **WHO:** World Health Organization
 - ✓ **HDI:** Human Development Index

DISCLAIMER

The data and information presented here are published in order to promote transparency in transplantation activities.

Whenever possible this information has been confirmed by official national sources. However, in some instances, there are still provisional estimates. It is therefore anticipated that some data presented may be modified without prior notice.

As the facts displayed here are not definitive, they cannot be reproduced or quoted unless shown with the appropriate warning and the date.

For any references to this report, the following should be quoted: Organ Donation and Transplantation Activities 2022 Report. Global Observatory on Donation and Transplantation (GODT).

For citations of the 2022 GODT data please quote the following: Those 2022 data are based on the Global Observatory on Donation and Transplantation (GODT) data, produced by the WHO-ONT collaboration.

For any references in Charts and bar chart, please quote: * Data of the WHO-ONT Global Observatory on Donation and Transplantation.

ACKNOWLEDGEMENTS

The GODT team is thankful to the identified focal points in Member States for their valuable participation in this international data sharing exercise, the Council of Europe for its support through the Newsletter Transplant, and the Spanish Government for its contribution to maintain the GODT.