

NEWSLETTER TRANSPLANT

International figures
on donation and
transplantation
2022



EDQM
Volume 28
2023



INTERNATIONAL FIGURES ON ORGAN, TISSUE & HEMATOPOIETIC STEM CELL DONATION & TRANSPLANTATION ACTIVITIES. DOCUMENTS PRODUCED BY THE COUNCIL OF EUROPE EUROPEAN COMMITTEE (PARTIAL AGREEMENT) ON ORGAN TRANSPLANTATION (CD-P-TO). YEAR 2022.

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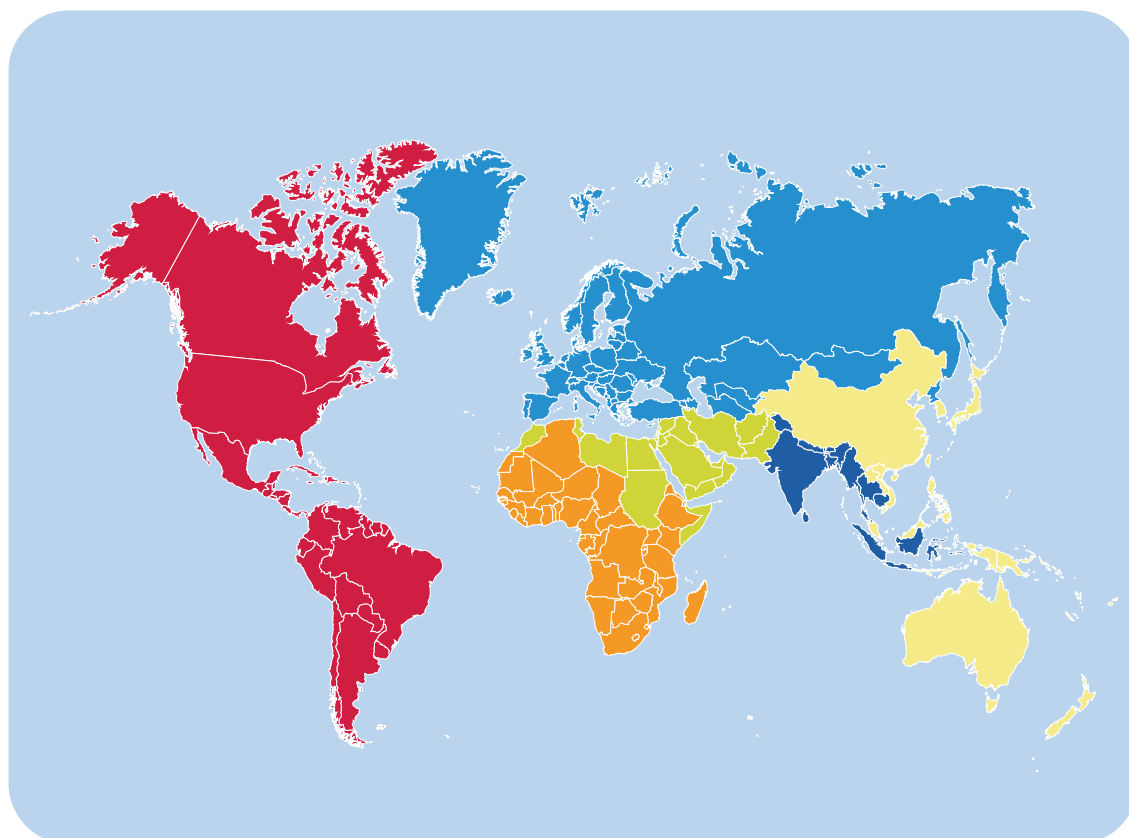
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NEWSLETTER TRANSPLANT 2023



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FOR THE PURPOSES OF THIS NEWSLETTER THE FOLLOWING DEFINITIONS WERE USED:

ACTUAL DECEASED ORGAN DONOR

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

DONOR AFTER BRAIN DEATH

A donor after brain death (DBD) is a deceased organ donor in whom death has been determined by neurologic criteria.

DONOR AFTER CIRCULATORY DEATH

A donor after circulatory death (DCD) is a deceased organ donor in whom death has been determined by circulatory and respiratory criteria.

Modified Maastricht Categories (Paris 2012) of DCD:

II/ Witnessed cardiac arrest (uncontrolled): Sudden unexpected irreversible cardiac arrest, with unsuccessful attempt at resuscitation by a medical team.

III/ Withdrawal of life-sustaining therapy (controlled DCD): Planned withdrawal of life-sustaining therapy with an expected cardiac arrest.

IV/ Cardiac arrest while brain dead (uncontrolled or controlled): Sudden or planned cardiac arrest after brain death diagnosis, but before organ recovery.

V/ Medical assistance in dying

UTILIZED DECEASED ORGAN DONOR

An actual donor from whom at least one organ was transplanted.

ORGAN TRANSPLANTS

The transfer (engraftment) of human organs from a donor to a recipient with the aim of restoring function (s) in the body.

TOTAL TRANSPLANTS (ALL COMBINATIONS INCLUDED)

Includes the transplantation of the corresponding organ with or without the simultaneous transplant of a different type of organ (s).

DOUBLE-KIDNEY TX.

One double-kidney TX. is counted as 1 TX.

TX. FROM LIVING DONORS

A living donor is a living human being from whom organs have been recovered for the purpose of transplantation. A Living Donor has one of the following three possible relationships with the recipient:

A – Related: The donor is genetically and/or emotionally related to the recipient.

A1/ genetically related: A genetic relation exists between donor and recipient (e.g. brother/sister, parent/offspring). Therefore a certain immunological compatibility exists too.

A2/ emotionally related: The donor is a genetically unrelated family member (e.g. spouse) of the recipient or a friend (to be considered as a family member).

B – Unrelated: The donor has no genetic or emotional relationship with the recipient. The relation between donor and recipient must be outlined further by a sub-specification. Immunological compatibility exists only by chance.

B1/ paired exchange or cross-over: By a controlled programme, unrelated donor and recipient pairs exchange grafts beyond any emotional or genetic relation, with the aim of overcoming immunological restrictions.

B2/ non-directed altruistic or anonymous: By a controlled programme, the donor can provide a graft to society which allocates this to a previously unknown recipient by defined rules.

B3/ directed altruistic: By a controlled programme, the donor provides a graft to a recipient of the donor's choice.

DOMINO DONOR

Patient who undergoes organ transplantation from a deceased donor and whose organ is suitable for transplant to another transplant candidate.

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.

HEART-LUNG TX.

One heart-lung TX. is counted as 1 lung TX., 1 heart TX. and 1 heart-lung TX.

DOUBLE-LUNG TX.

One double-lung TX. is counted as 1 TX.

TOTAL NUMBER OF PATIENTS TRANSPLANTED

For more than one organ transplanted into the same recipient: kidney-liver-heart TX. = counted as one recipient.

PAEDIATRIC

Includes only paediatric activity (patients aged < 18 years).

WAITING LIST

Example: At 1/1/2022 there were 200 patients active on the waiting list (WL). Along the year, 100 patients are newly included on the WL (first row). In total, 300 patients have been ever active on the WL during the year (second row). Along the year, 200 patients received an organ transplant (number recorded in a different questionnaire), 50 patients remained active at the end of the year (third row), 25 patients died (fourth row) and 25 patients were excluded (number not to be reported, but derived from previous figures).

Patients included on the WL for the first time in the course of 2022	100
Total number of patients ever active on the WL during 2022	300
Patients awaiting for a transplant (only active candidates) on 31/12/2022	50
Patients who died while on the WL during 2022	25

FAMILY REFUSALS

Numbers of interviews to pose the option of organ donation: number of interviews to present families with the option of donating the organs of the deceased person (brain death or circulatory death).

Number of family refusals: number of negative responses to donate after holding interviews with the families.

Letter from the Editor



Letter from the Editor

Beatriz Domínguez-Gil, MD, PhD
Director Organización Nacional de Trasplantes, Spain
Editor of Newsletter Transplant

Dear friends,

It is with great pleasure that I introduce a new issue of the *Newsletter Transplant*, one of the most valuable tools produced by the European Committee of Organ Transplantation of the Council of Europe (CD-P-TO), in conjunction with the Spanish Organización Nacional de Trasplantes (ONT). Since 1996, this publication has allowed the CD-P-TO to share information on donation and transplantation activities in member states of the Council of Europe (CoE) – and beyond – and to present some of the projects developed by this committee, as well as other documents of relevance to the field. The *Newsletter Transplant* is in itself an opportunity to demonstrate the active contribution of the CD-P-TO to secure fundamental human rights and freedoms, as well as to increase organ availability, improve the effectiveness of transplantation systems and enhance the quality and safety of organs, tissues and cells for clinical use.

Without doubt, monitoring of practices in donation and transplantation of substances of human origin in member states is essential for the sake of transparency and international benchmarking. This is the main aim of the *Newsletter Transplant* and the reason it has become an international reference. In this new issue, the *Newsletter Transplant* provides data from 86 countries throughout the world for the year 2022. The information presented relates to organ donation and transplantation activities, management of the waiting lists, and authorized transplant centres. Donation data are displayed by type of deceased donor (after the neurological or the circulatory determination of death, and Maastricht categories) and type of living donor (related or unrelated to the recipient, specified or unspecified). Data are also presented by age group and gender for both organ donors and recipients. Let me take this opportunity to remind you that the underlying data collection is also hosted by the Global Observatory on Organ Donation and Transplantation (<http://www.transplant-observatory.org/>), devel-

oped and maintained by the ONT as collaborating centre of the World Health Organization. The Observatory allows users to download the data and display figures and different types of analyses online.

Information presented in the *Newsletter Transplant* is not limited to the organ field, but also includes data collected via the Eurocet platform by the Centro Nazionale di Trapianti (CNT) in Italy on the donation, procurement, processing, distribution and clinical use of tissues and cells from a significant number of countries.

The COVID-19 pandemic had a profound impact on 2021 donation and transplantation activities. All the countries with transplant programmes worldwide had to adapt to this adverse situation. During 2021 and 2022 we have witnessed a progressive recovery of the activity with a global increase in transplant activities of 13% and 9% respectively. This edition of the *Newsletter Transplant* includes figures and tables that allow easy comparisons of organ donation and transplantation activities (by transplant type) in 2022 versus 2021 and 2020, for a significant number of countries.

The CD-P-TO, through a number of initiatives, programmes and legal instruments, has over the years actively contributed to the development and implementation of quality and safety standards in the field of donation and transplantation, facilitating the exchange of knowledge between countries and institutions, securing fundamental rights and ensuring respect for the human body. It is important to emphasize the importance and usefulness of the technical guides in the fields of organs, and tissues and cells that are regularly updated by ad hoc working groups.

In addition, over the years the CD-P-TO has identified topics of interest and elaborated a set of Resolutions and Recommendations in the field that were

subsequently adopted by the Committee of Ministers of the Council of Europe. These documents have profoundly impacted national legislations, ethical frameworks, strategic plans on organisational aspects of donation and transplantation, and professional practices, supporting countries to address the many challenges posed by transplantation practices in a uniform manner. In this issue of the *Newsletter Transplant*, you can find a recommendation recently approved urging member states to establish national harmonised organ transplant registries with a view to facilitating international data sharing.

This edition of the *Newsletter Transplant* also presents the Resolution 77/236, adopted by the United Nations General Assembly on 15 December 2022 aimed to strengthening and promoting effective measures and international cooperation on organ

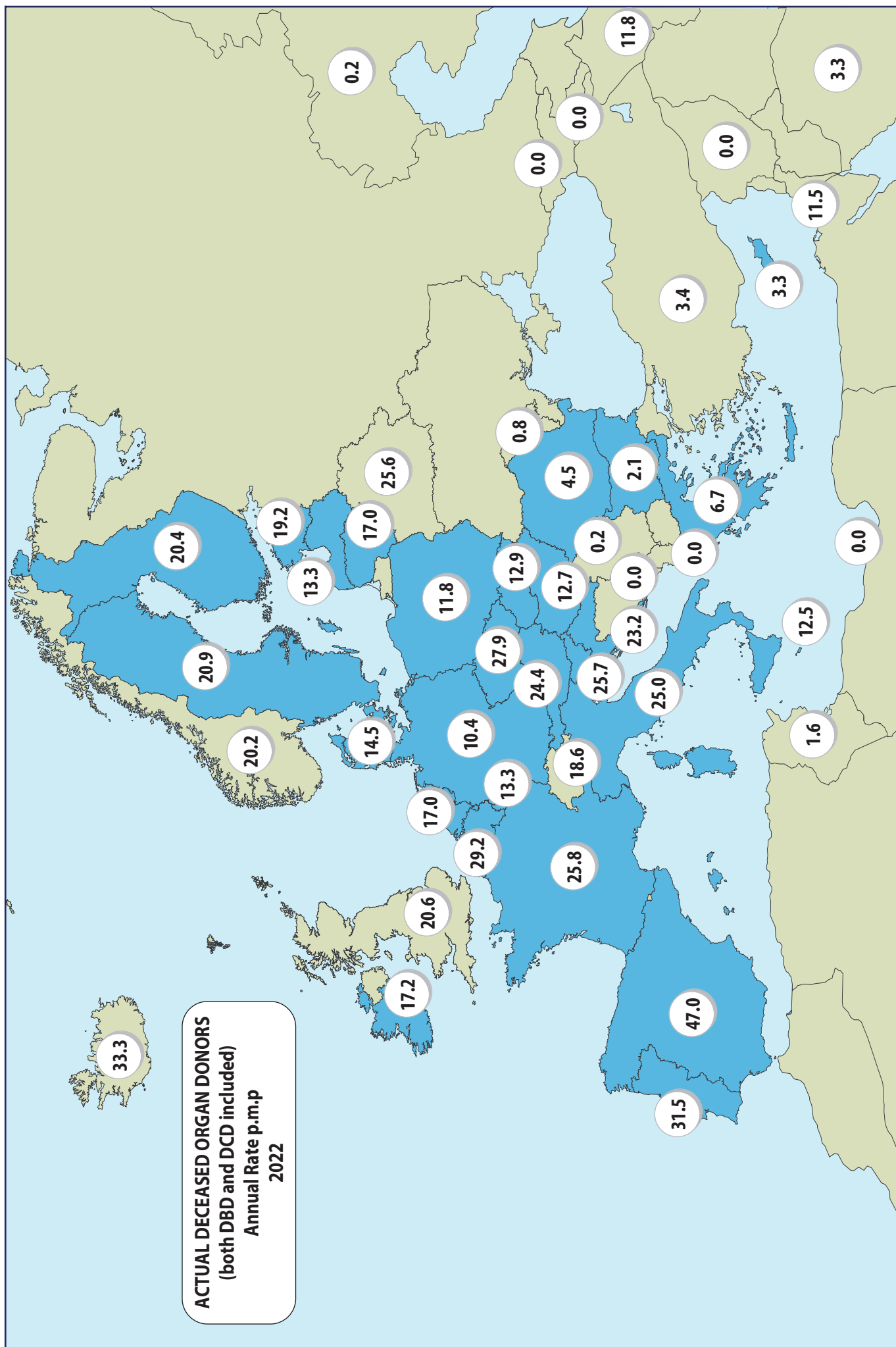
donation and transplantation to prevent and combat trafficking in persons for the purpose of organ removal and trafficking in human organs. This Resolution reaffirms the commitment of Member States to take immediate and effective measures to eradicate all forms of trafficking in persons.

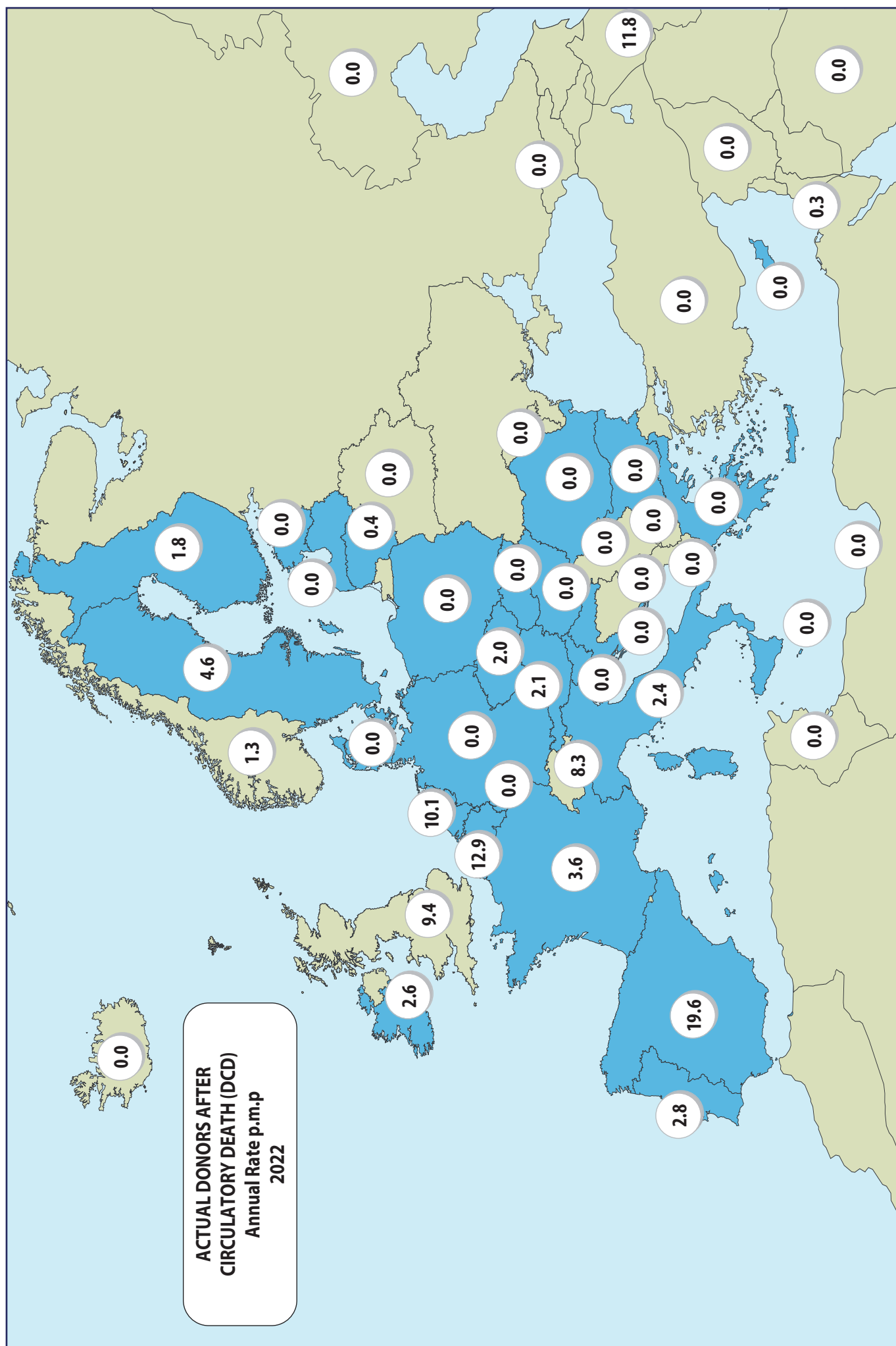
Please allow me to finish this letter by thanking all those who make the *Newsletter Transplant* possible - members of the CD-P-TO, national focal points providing data on a regular basis and the EDQM Secretariat. Let me also thank the members of the ONT whose continuous work, commitment and enthusiasm are essential for an exercise that every year showcases the outcomes of the efforts undertaken all over the world in the fascinating field of transplantation.

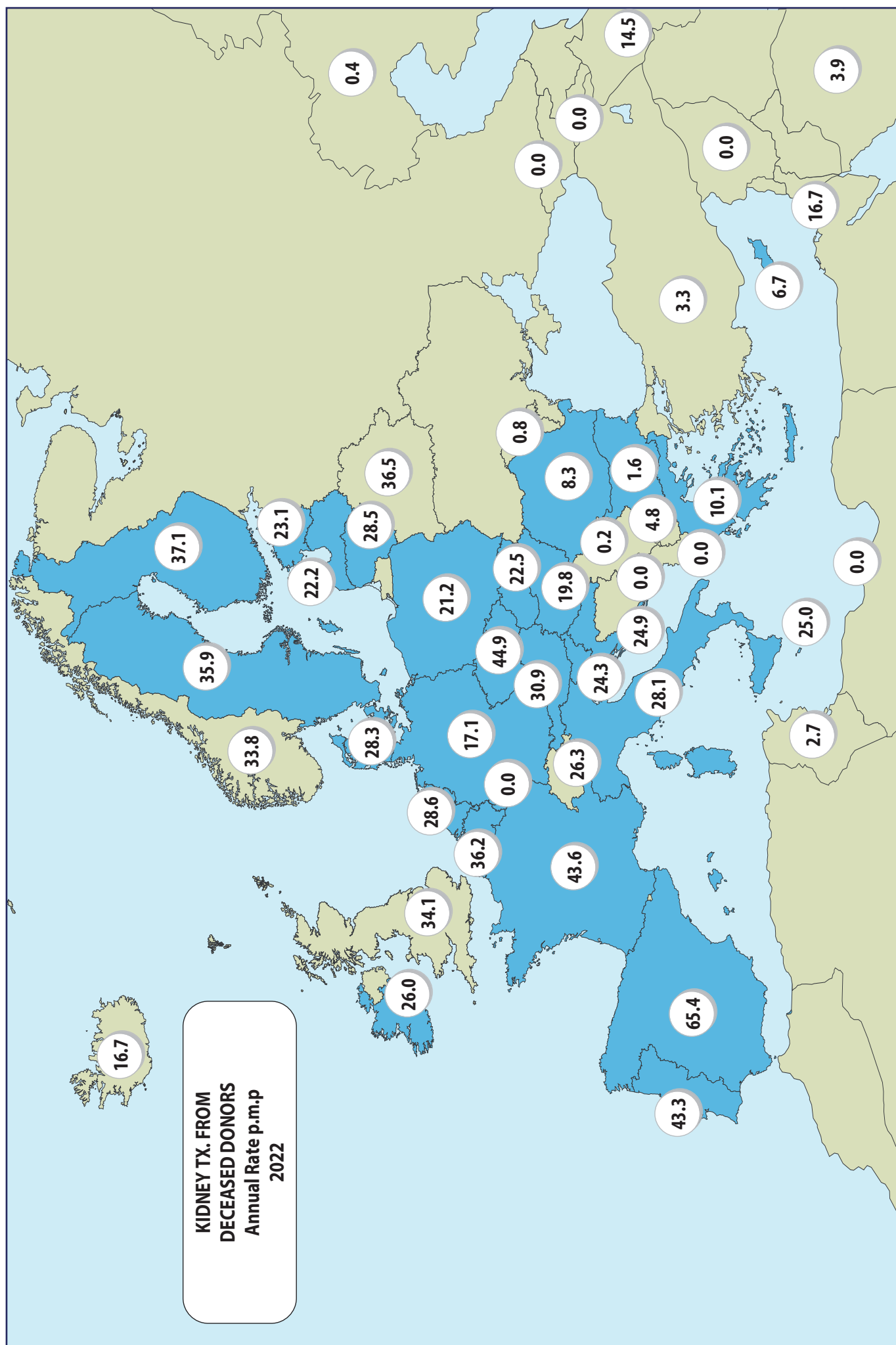
International Figures on Organ Donation and Transplantation Activity. Year 2022

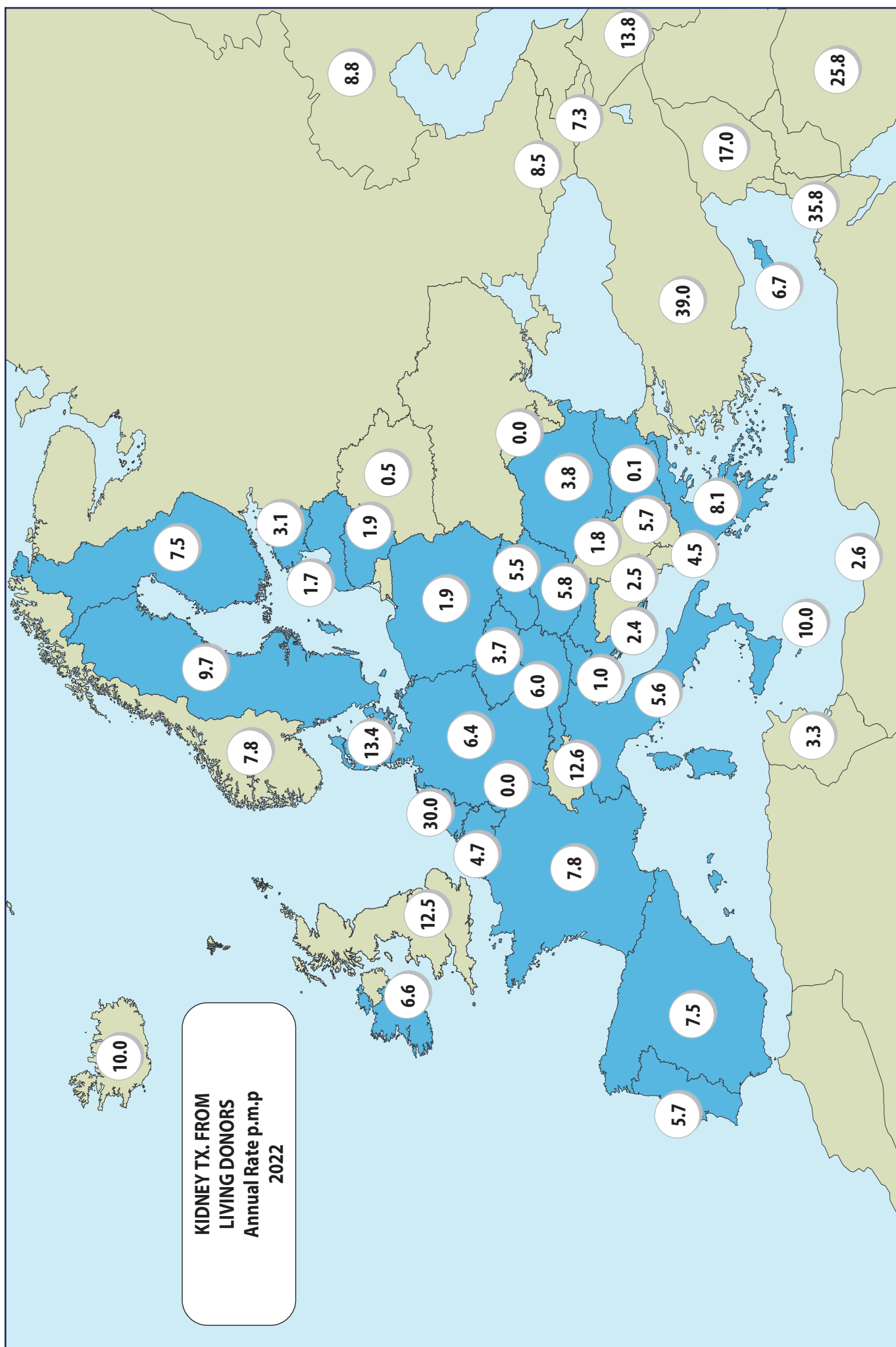


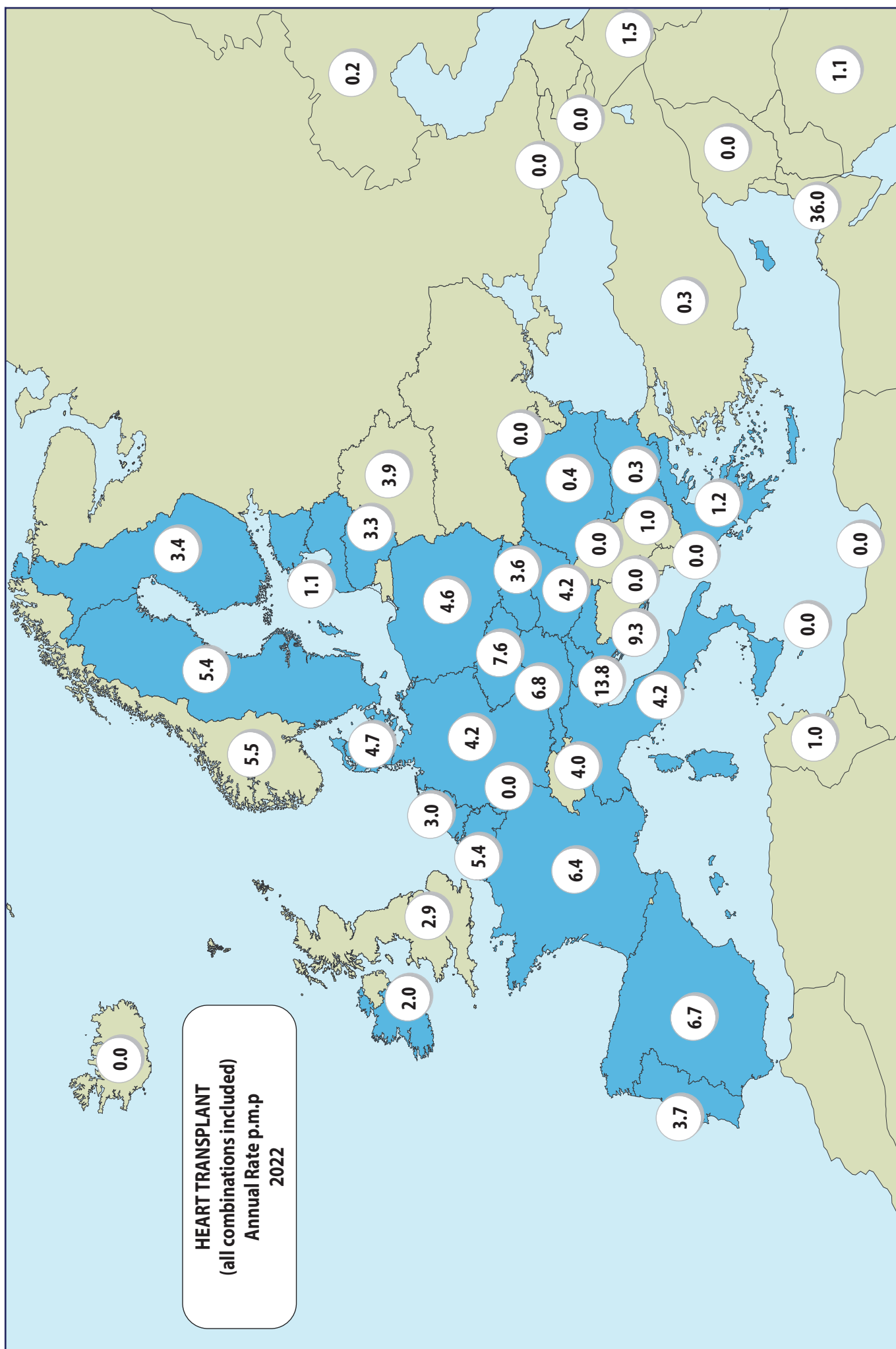
ACTUAL DECEASED ORGAN DONORS
(both DBD and DCD included)
Annual Rate p.m.p
2022

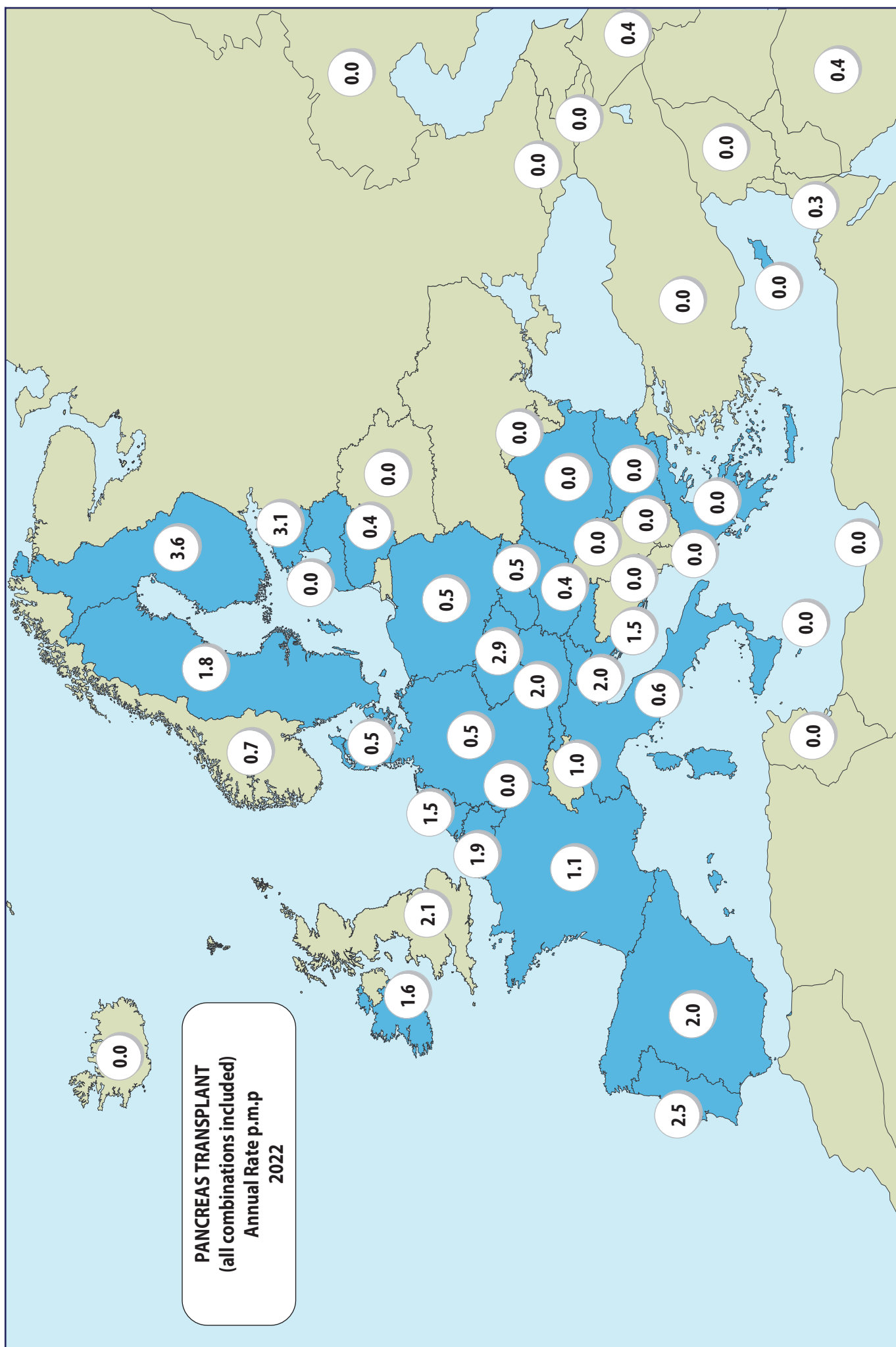


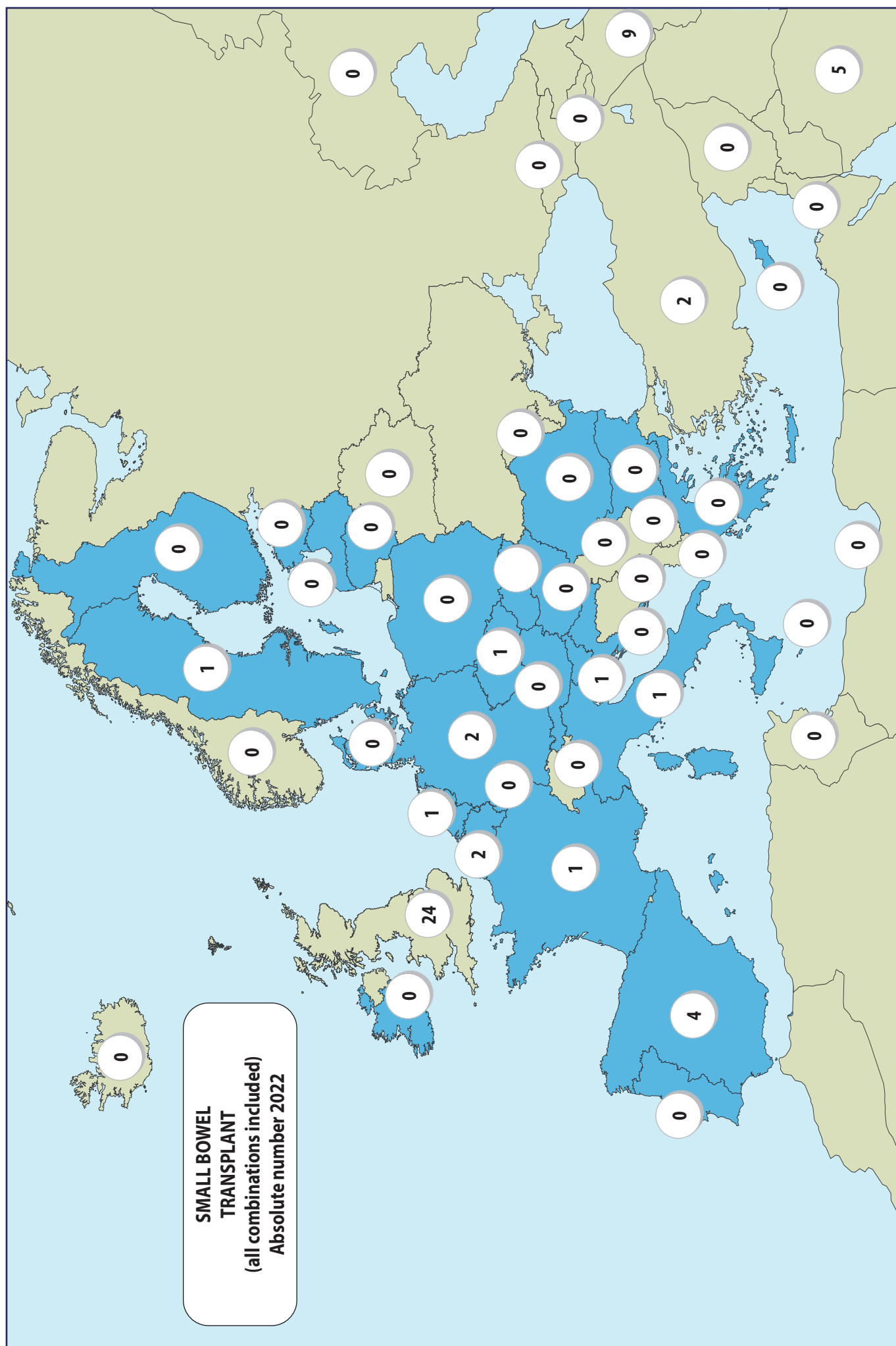




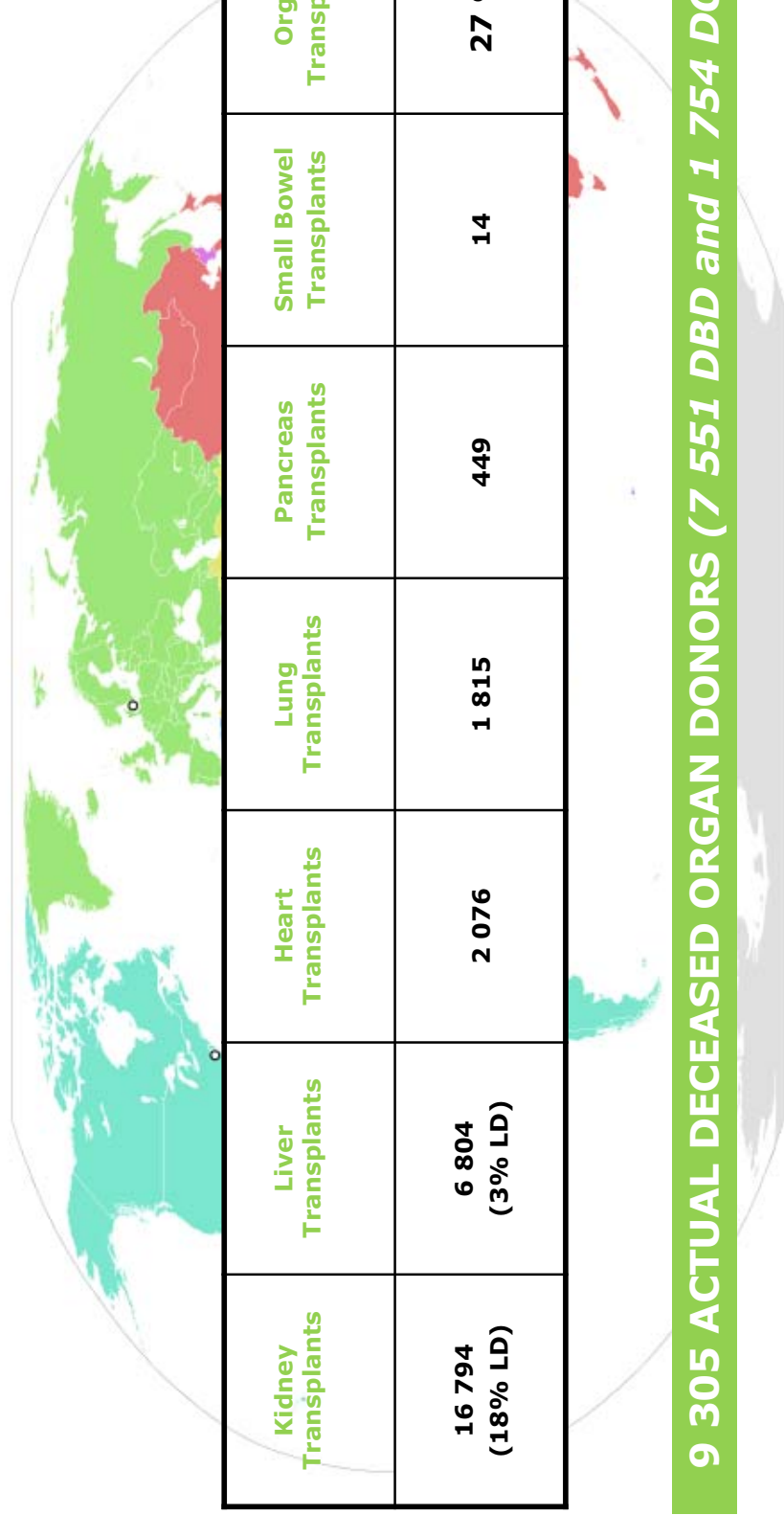








EUROPEAN UNION DATA



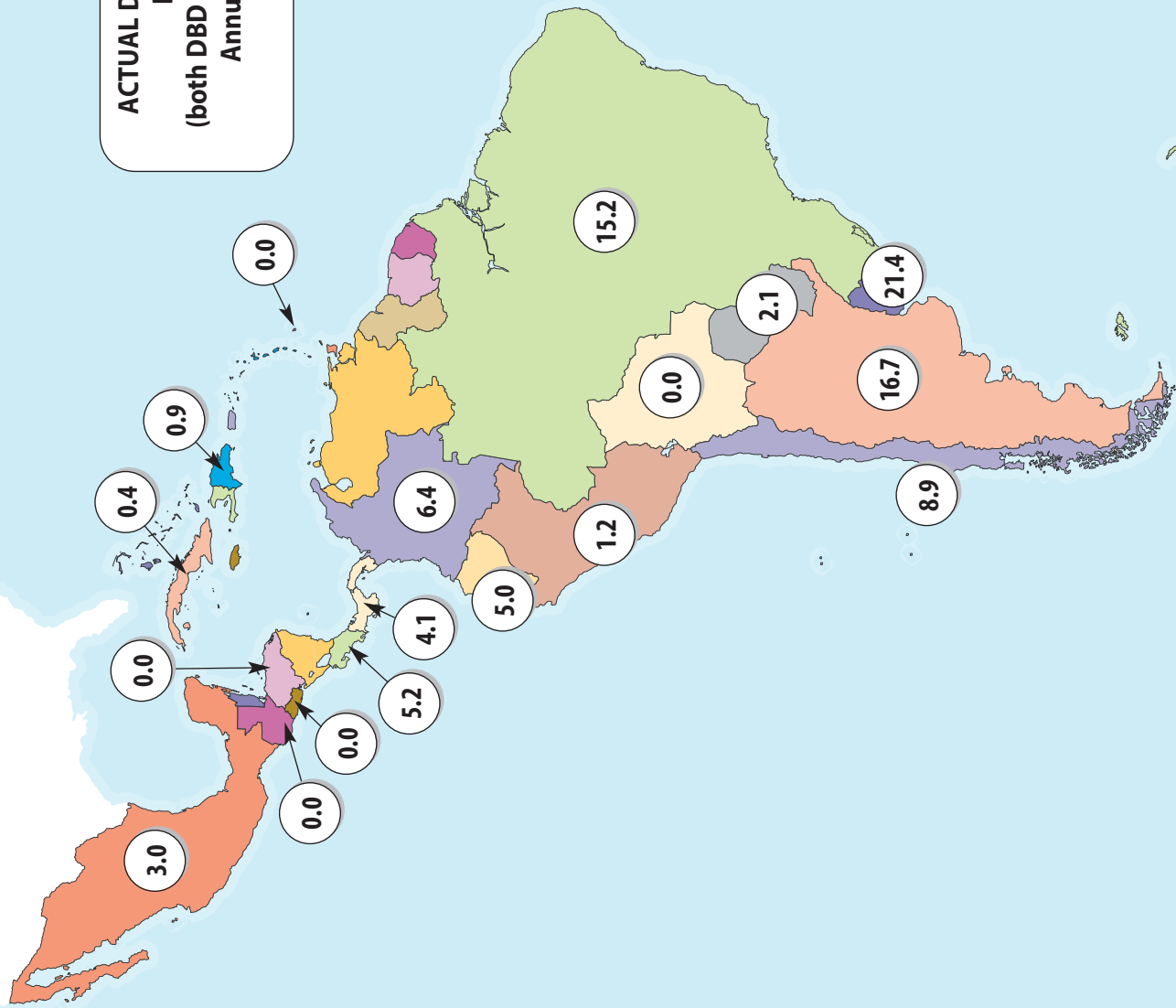
9 305 ACTUAL DECEASED ORGAN DONORS (7 551 DBD and 1 754 DCD)

2022 data

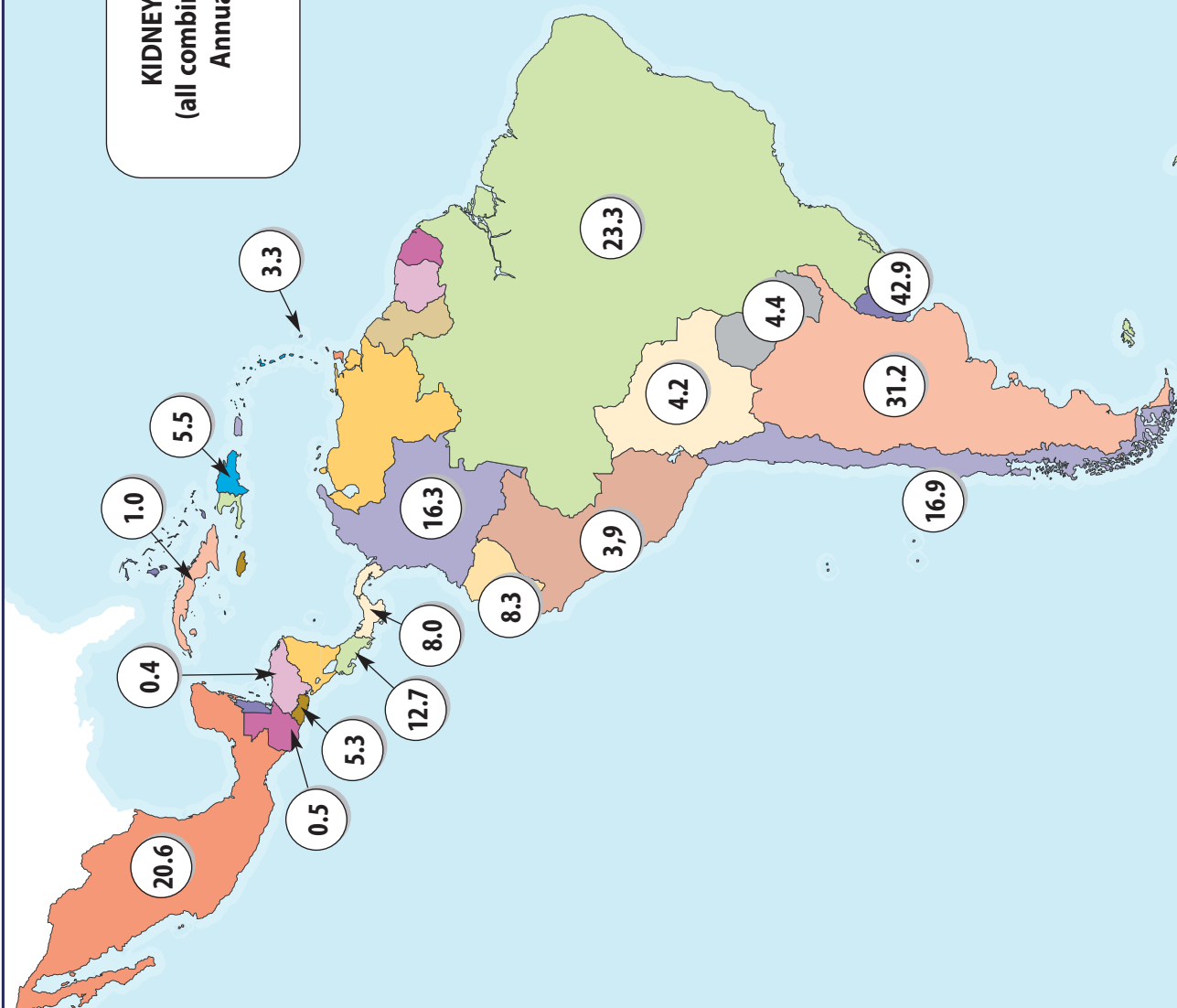
N= 27 COUNTRIES (445.0 million inhabitants)



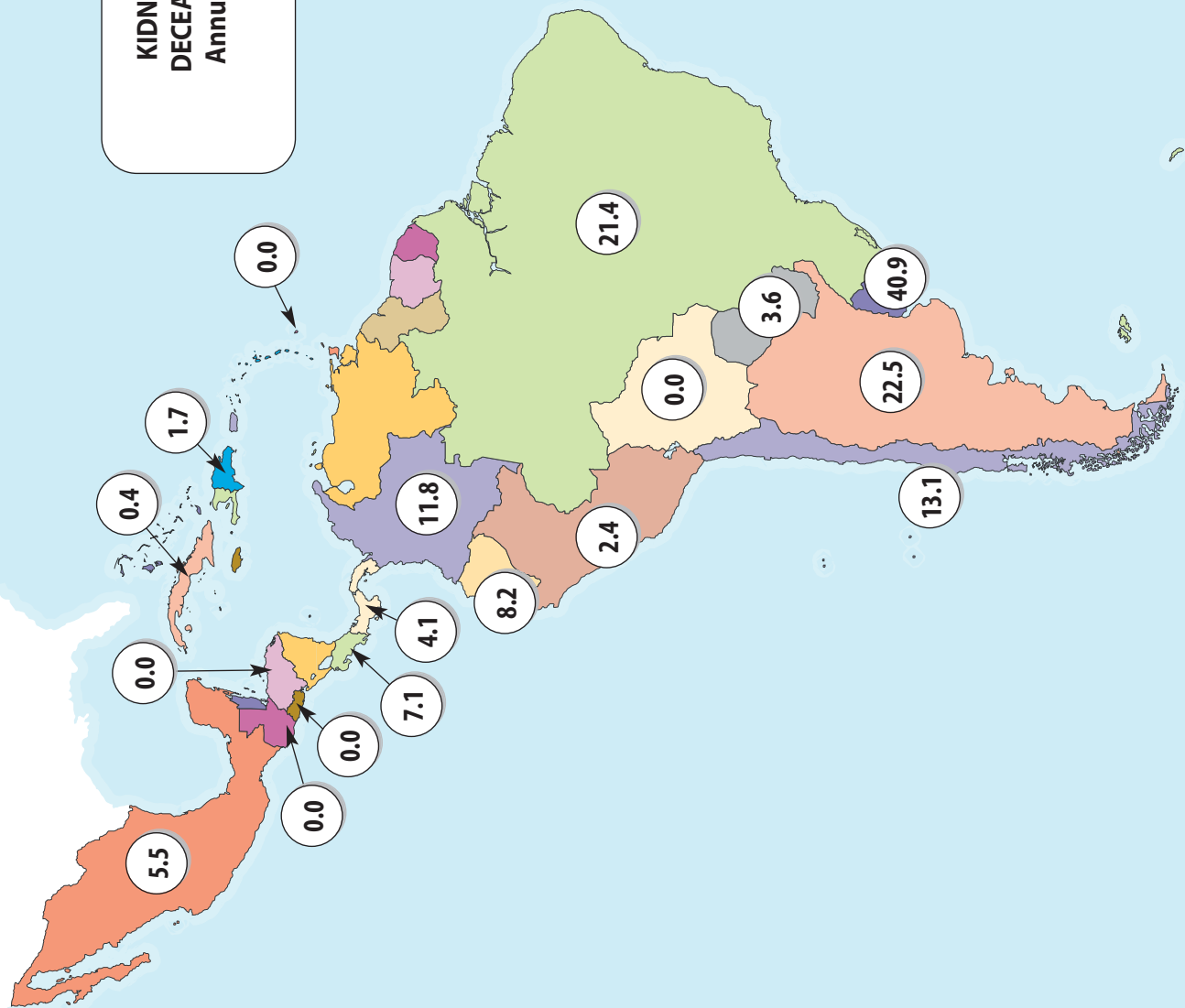
**ACTUAL DECEASED ORGAN
DONORS**
(both DBD and DCD included)
Annual Rate p.m.p
2022



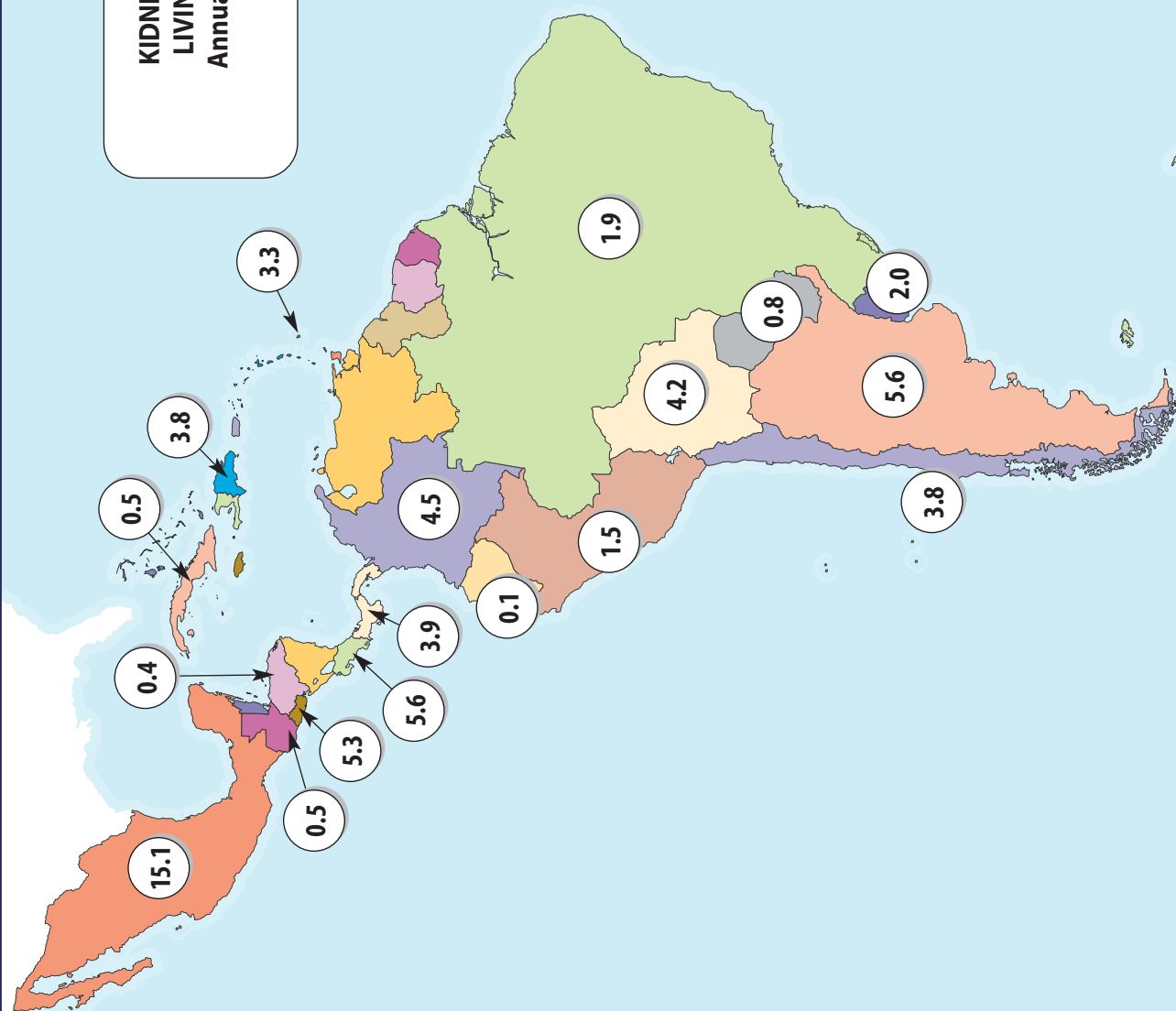
KIDNEY TRANSPLANT
(all combinations included)
Annual Rate p.m.p
2022



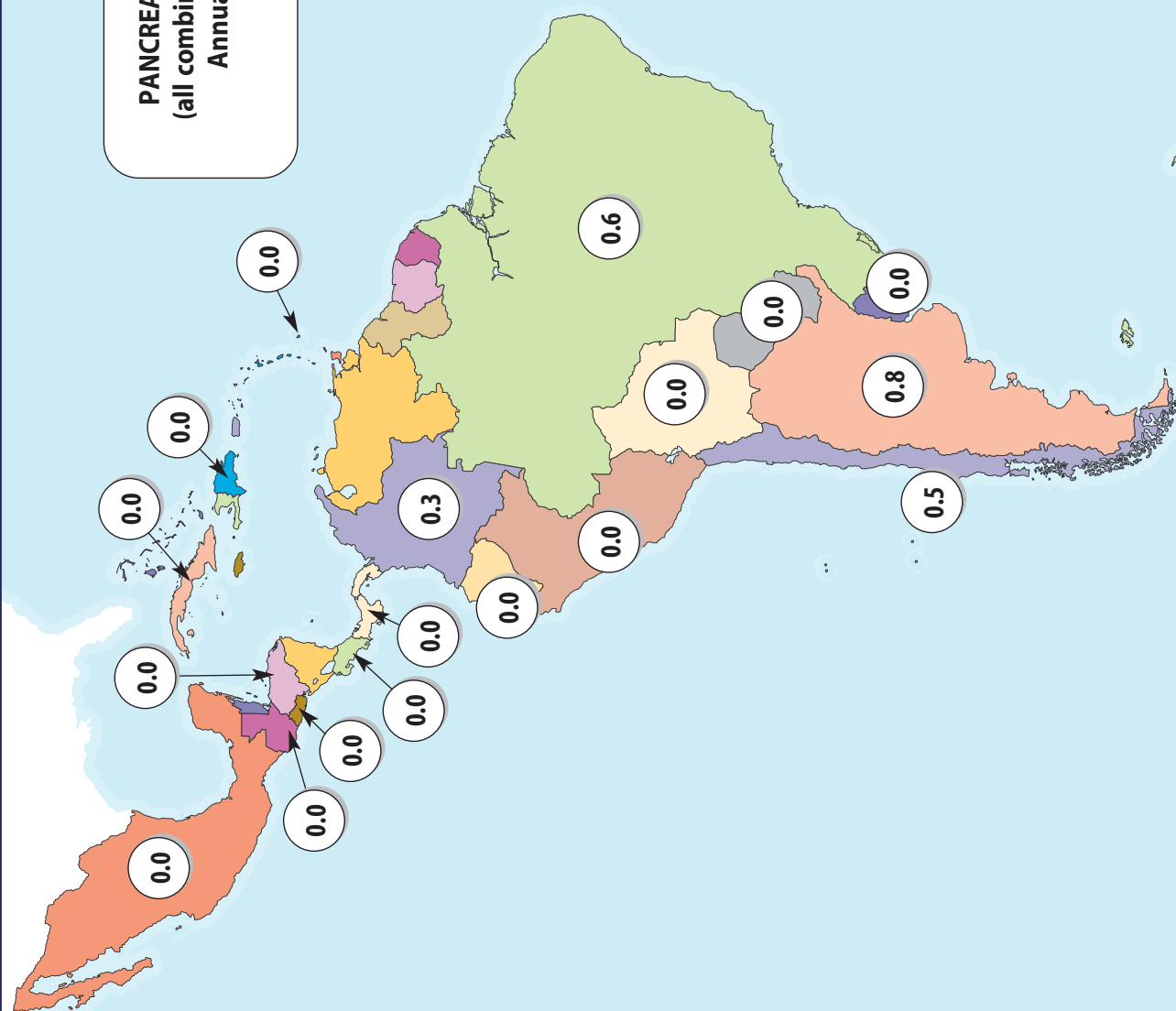
**KIDNEY TX. FROM
DECEASED DONORS
Annual Rate p.m.p
2022**



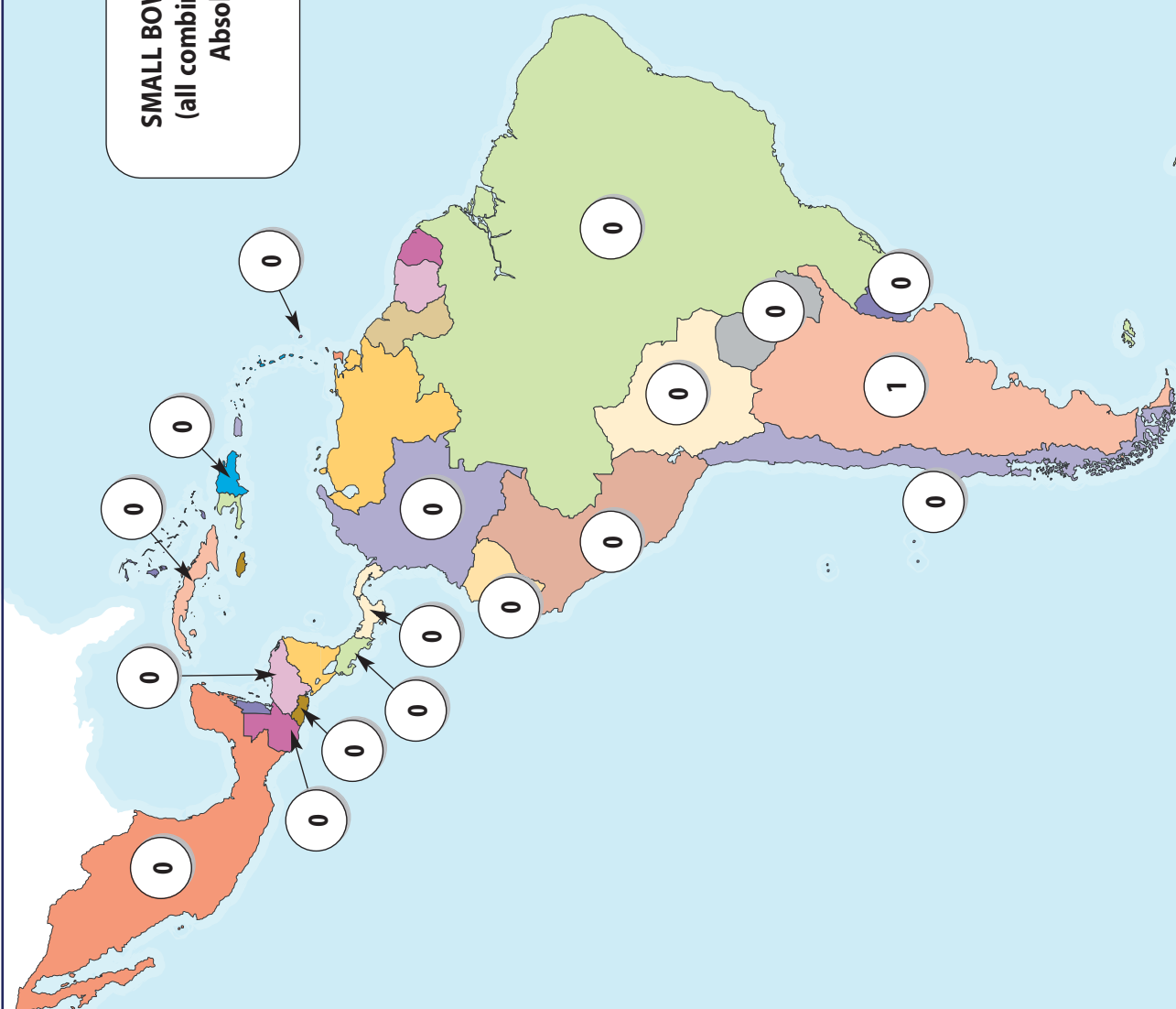
**KIDNEY TX. FROM
LIVING DONORS
Annual Rate p.m.p
2022**



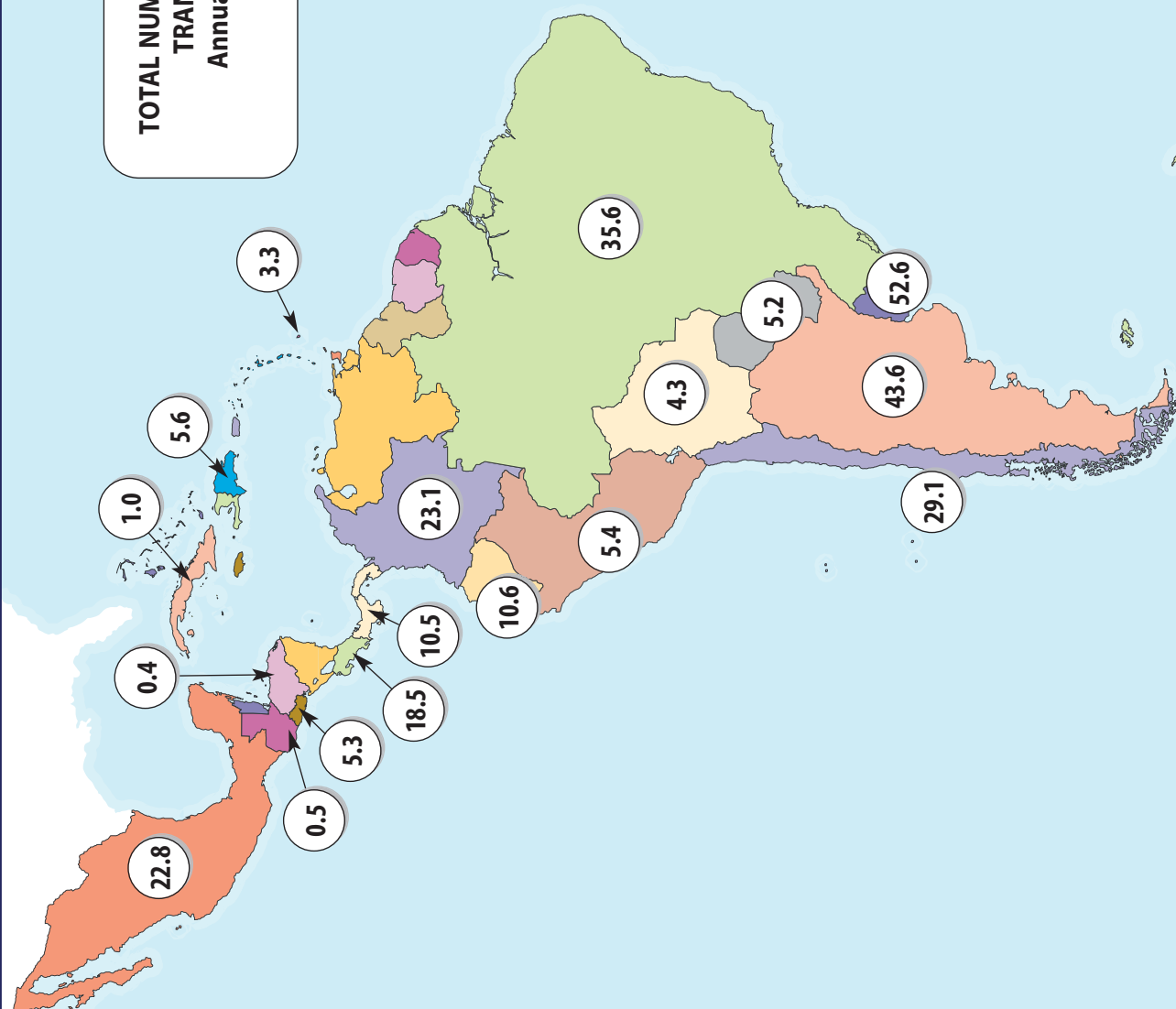
PANCREAS TRANSPLANT
 (all combinations included)
 Annual Rate p.m.p
 2022



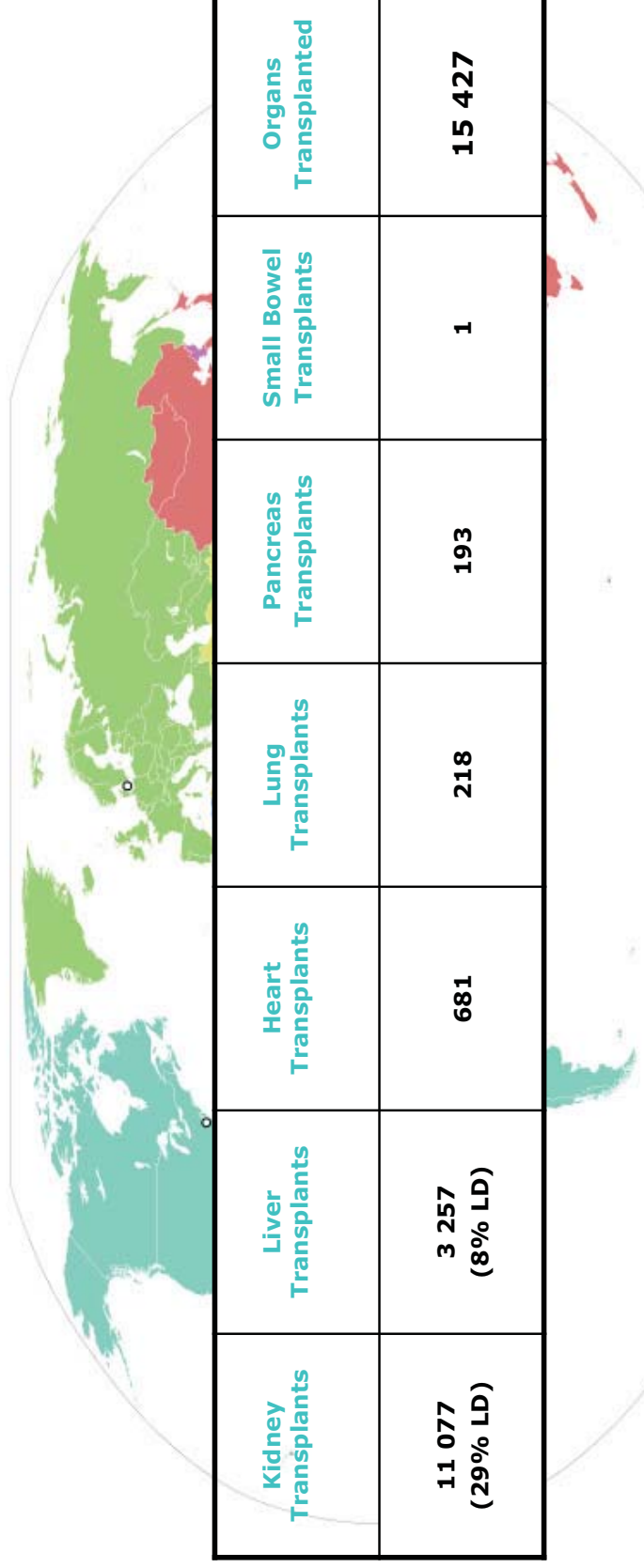
SMALL BOWEL TRANSPLANT
(all combinations included)
Absolute number
2022



**TOTAL NUMBER OF PATIENTS
TRANSPLANTED
Annual Rate p.m.p
2022**



LATINAMERICAN COUNTRIES



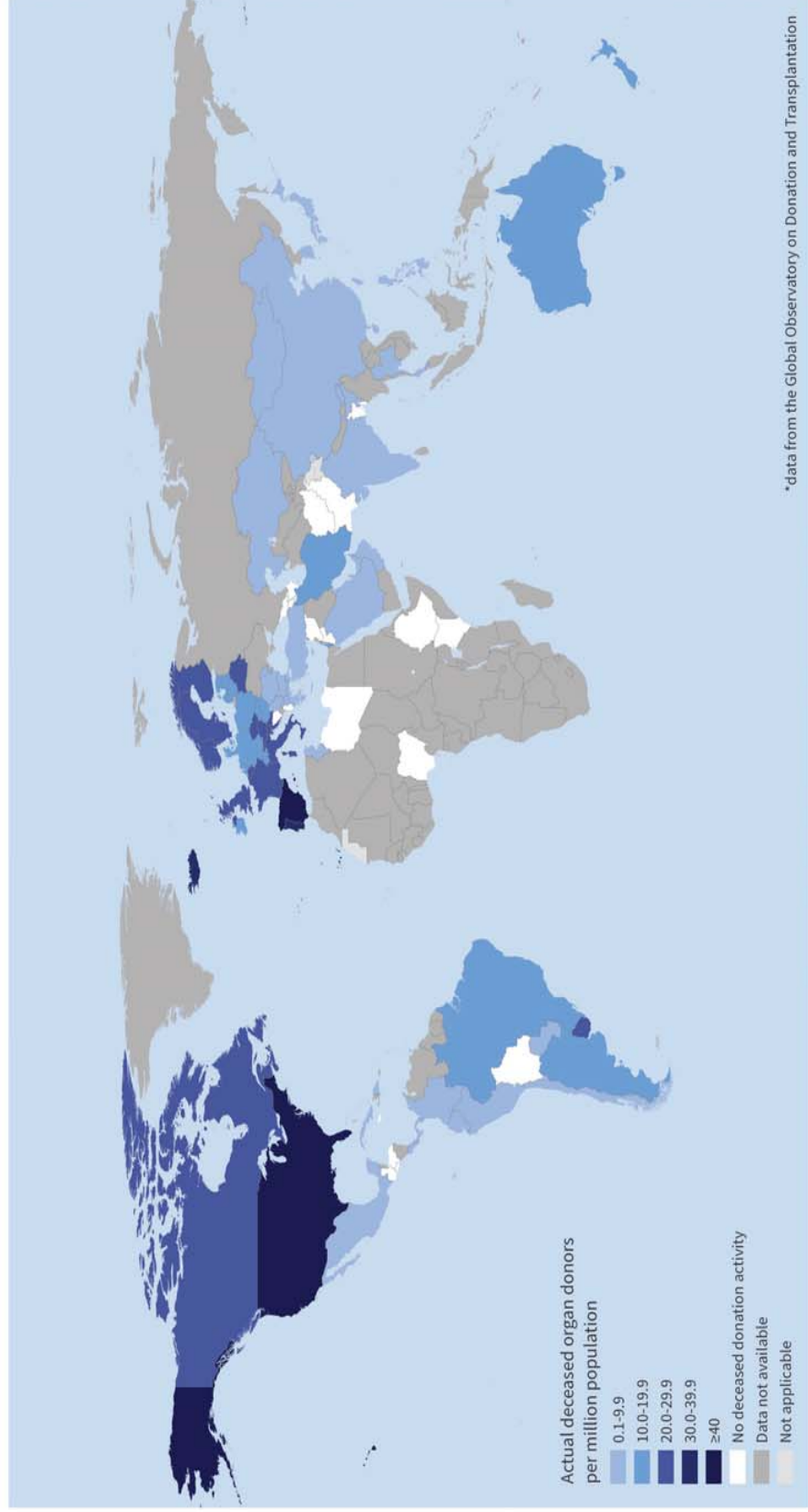
Kidney Transplants	Liver Transplants	Heart Transplants	Lung Transplants	Pancreas Transplants	Small Bowel Transplants	Organs Transplanted
11 077 (29% LD)	3 257 (8% LD)	681	218	193	1	15 427

5 217 ACTUAL DECEASED ORGAN DONORS (5 210 DBD and 7 DCD included)

2022 data

N= 17 COUNTRIES (605.8 million inhabitants)

Actual donors from deceased persons, 2022*



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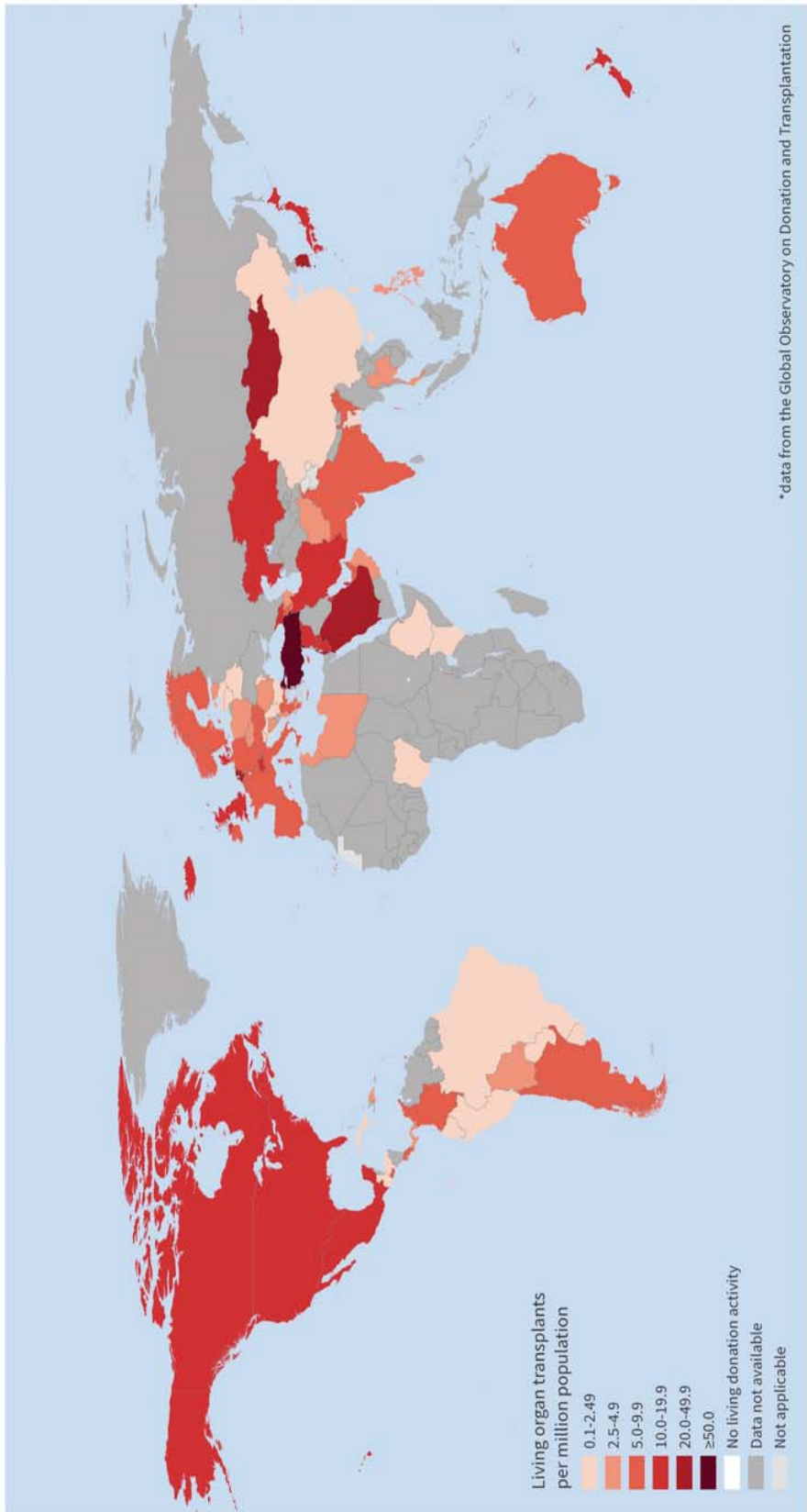
Data Source: Global Observatory on Donation and Transplantation
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Map Creation Date: **04 September 2023**



GOBIERNO DE ESPAÑA



Organ transplantation from living donors, 2022*



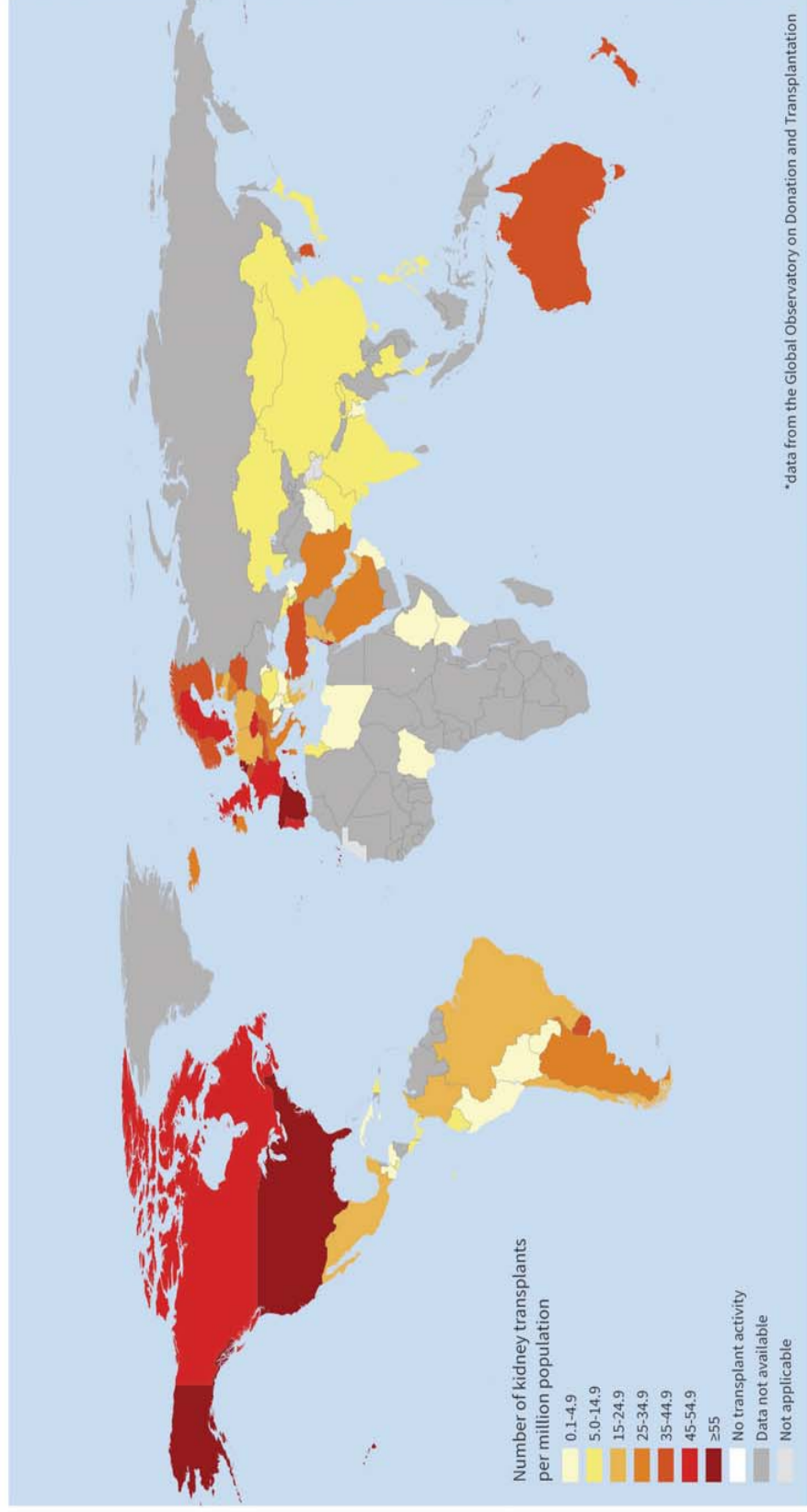
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Kidney transplantation activities, 2022*



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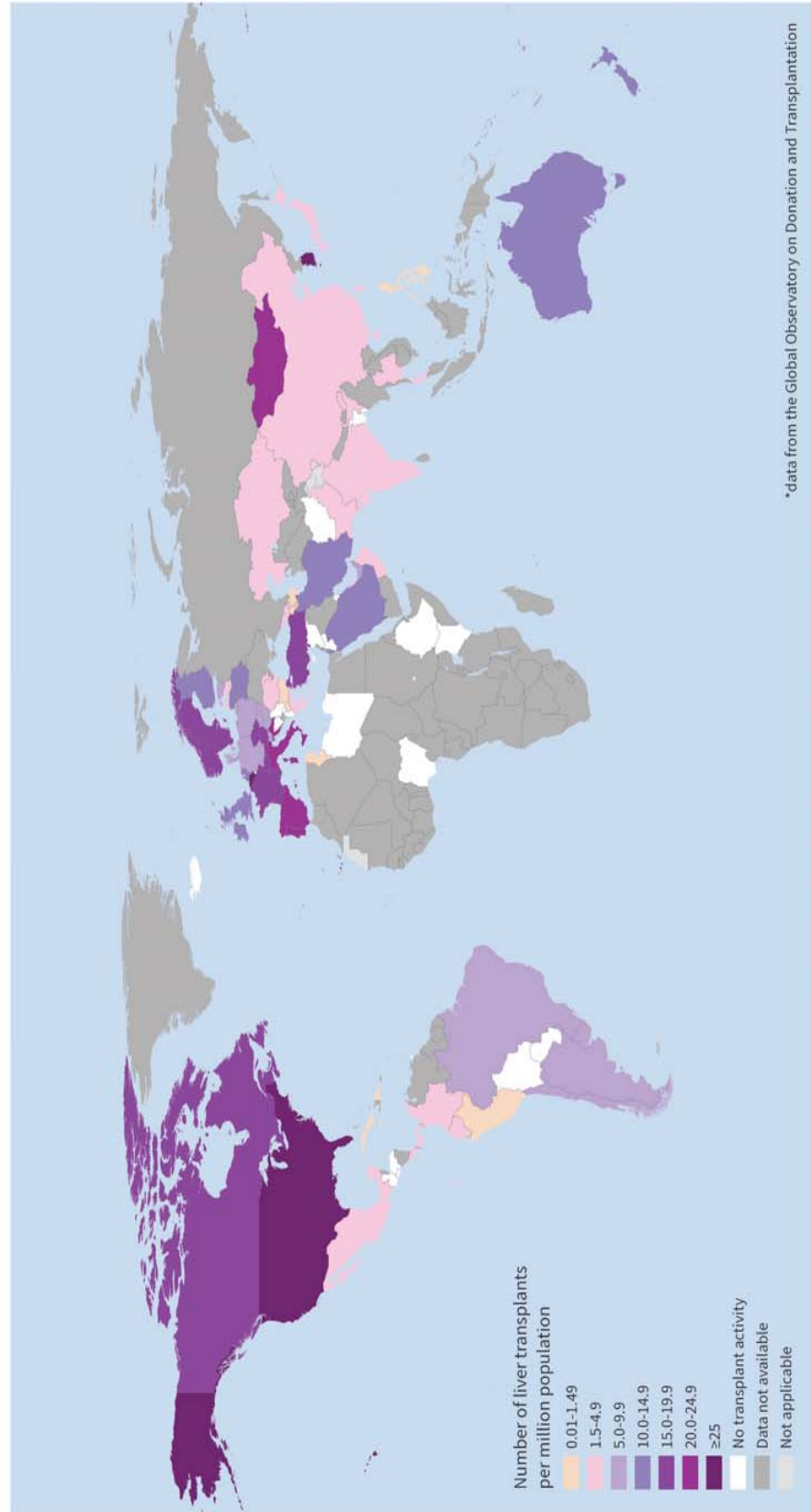
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MINISTERIO DE SANIDAD



Liver transplantation activities, 2022*

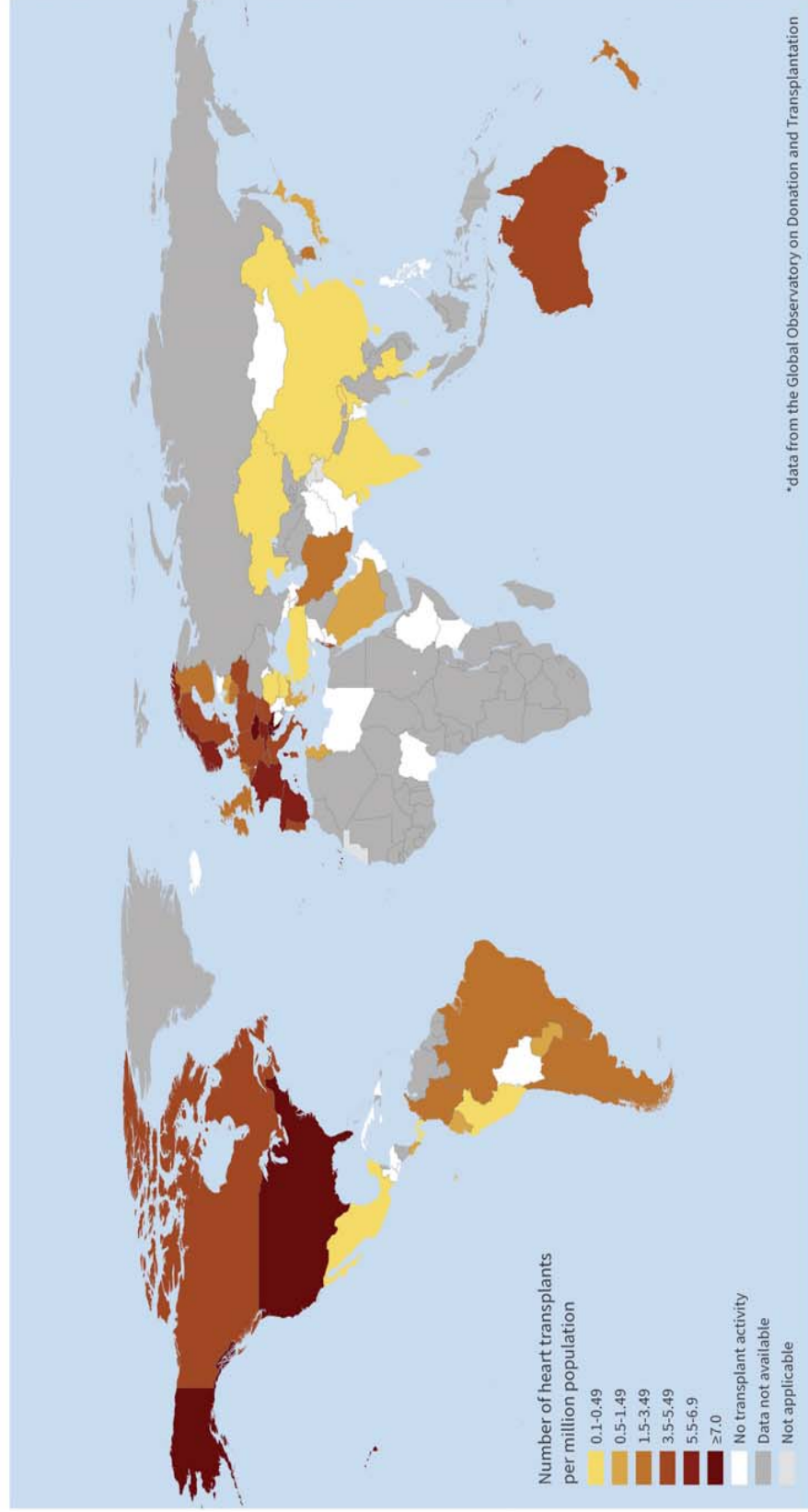


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Heart transplantation activities, 2022*



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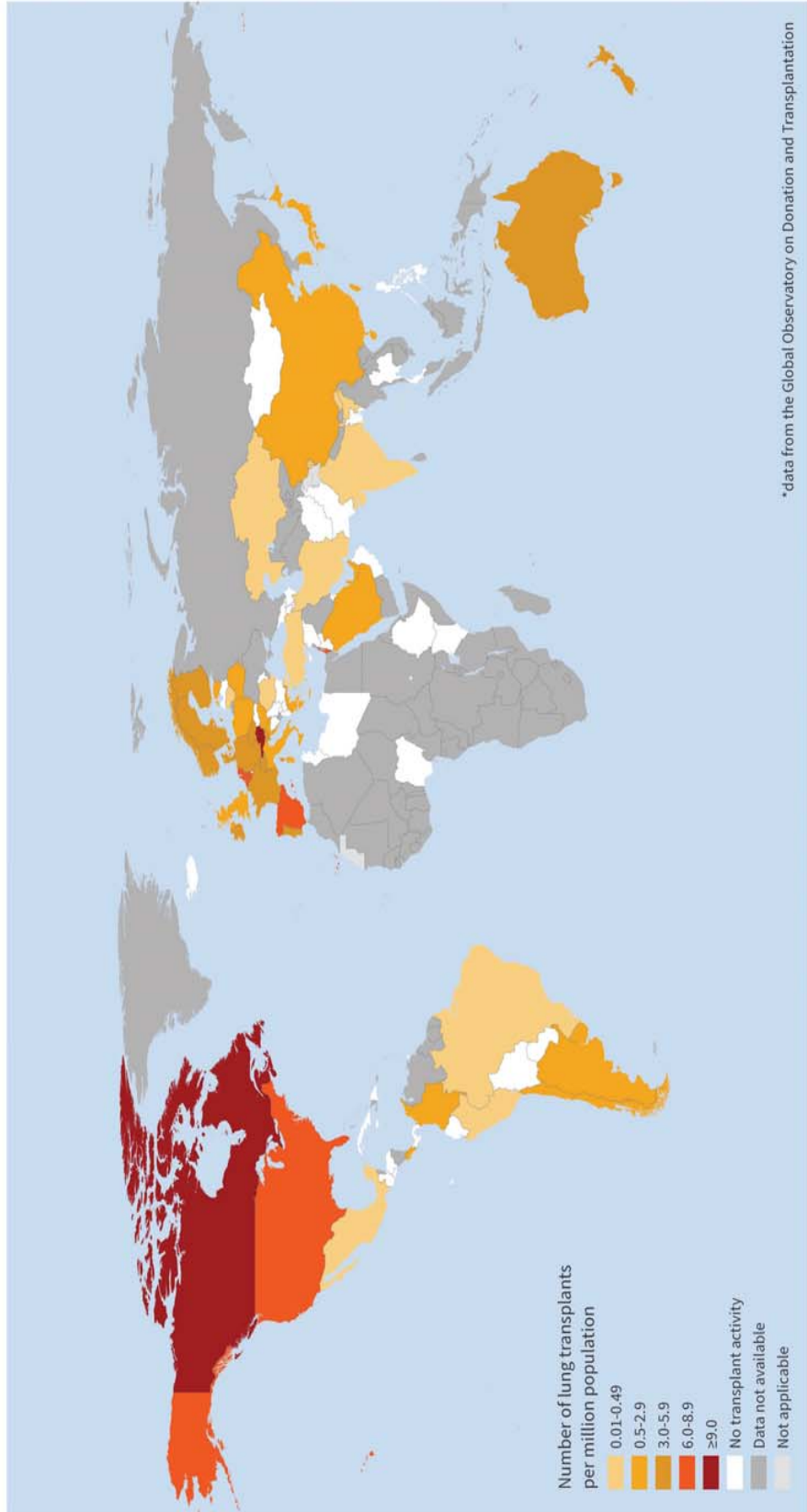
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MINISTERIO
DE SANIDAD

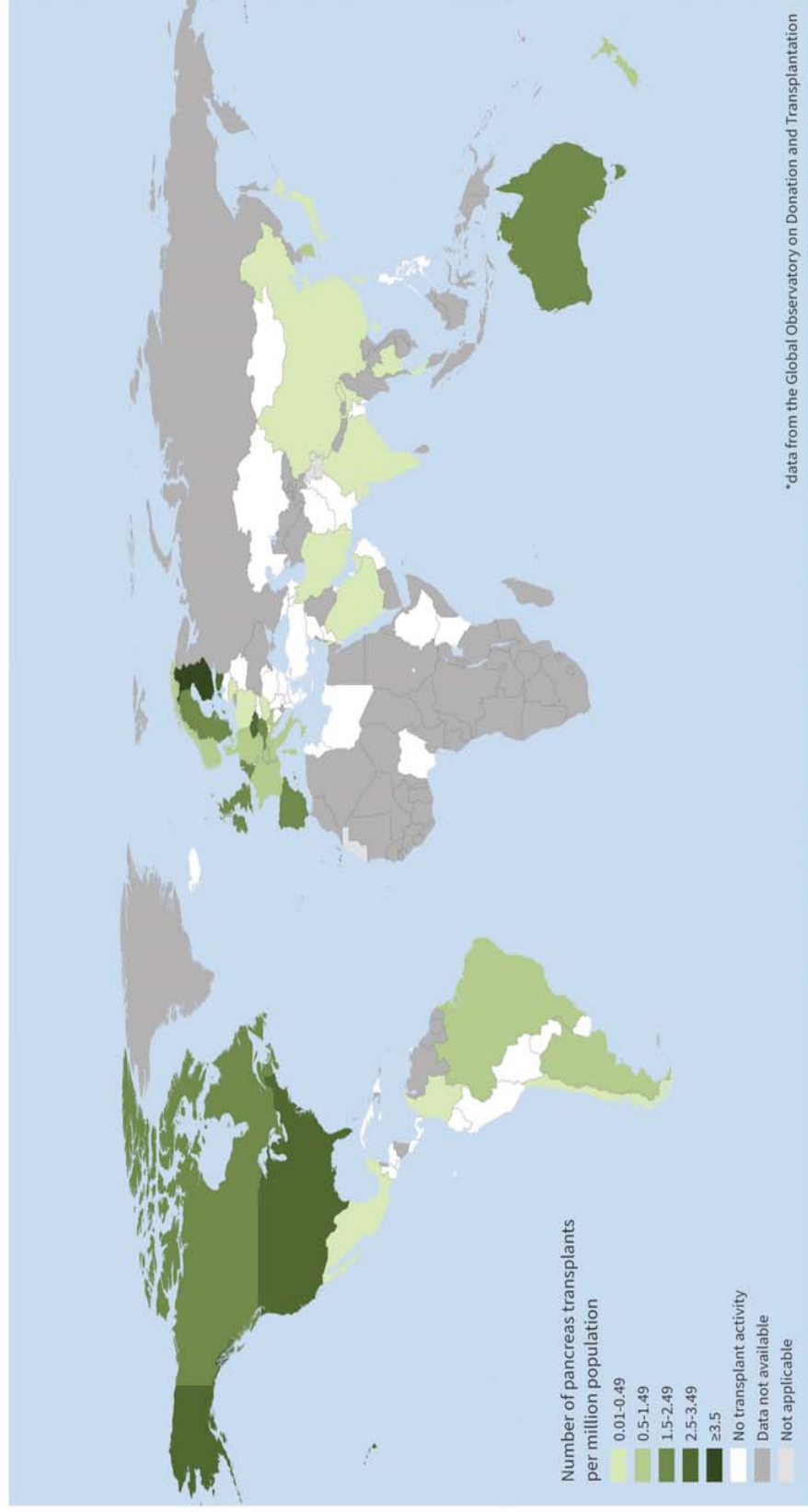


Lung transplantation activities, 2022*



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Pancreas transplantation activities, 2022*



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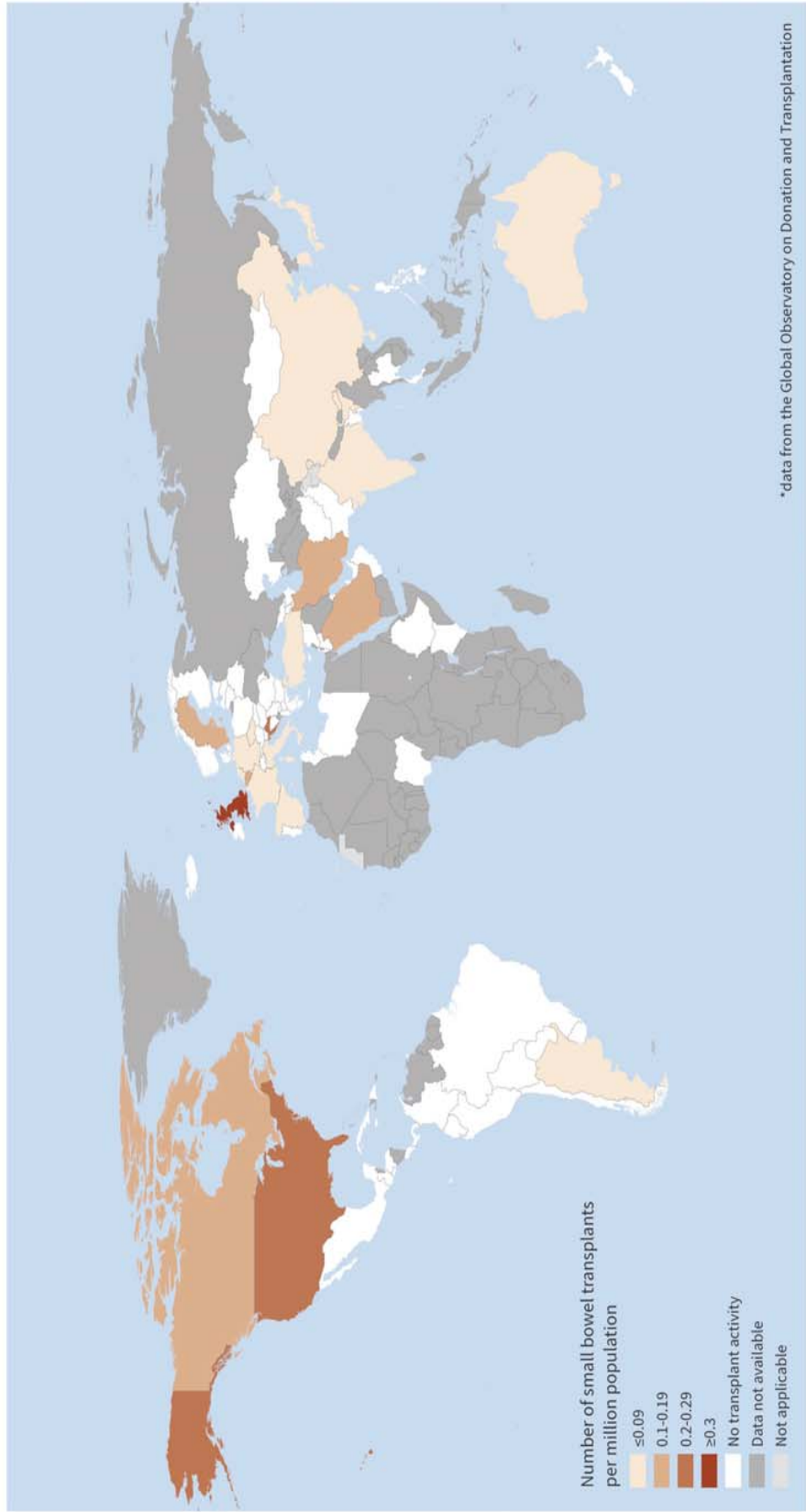
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MINISTERIO DE SANIDAD



Small bowel transplantation activities, 2022*

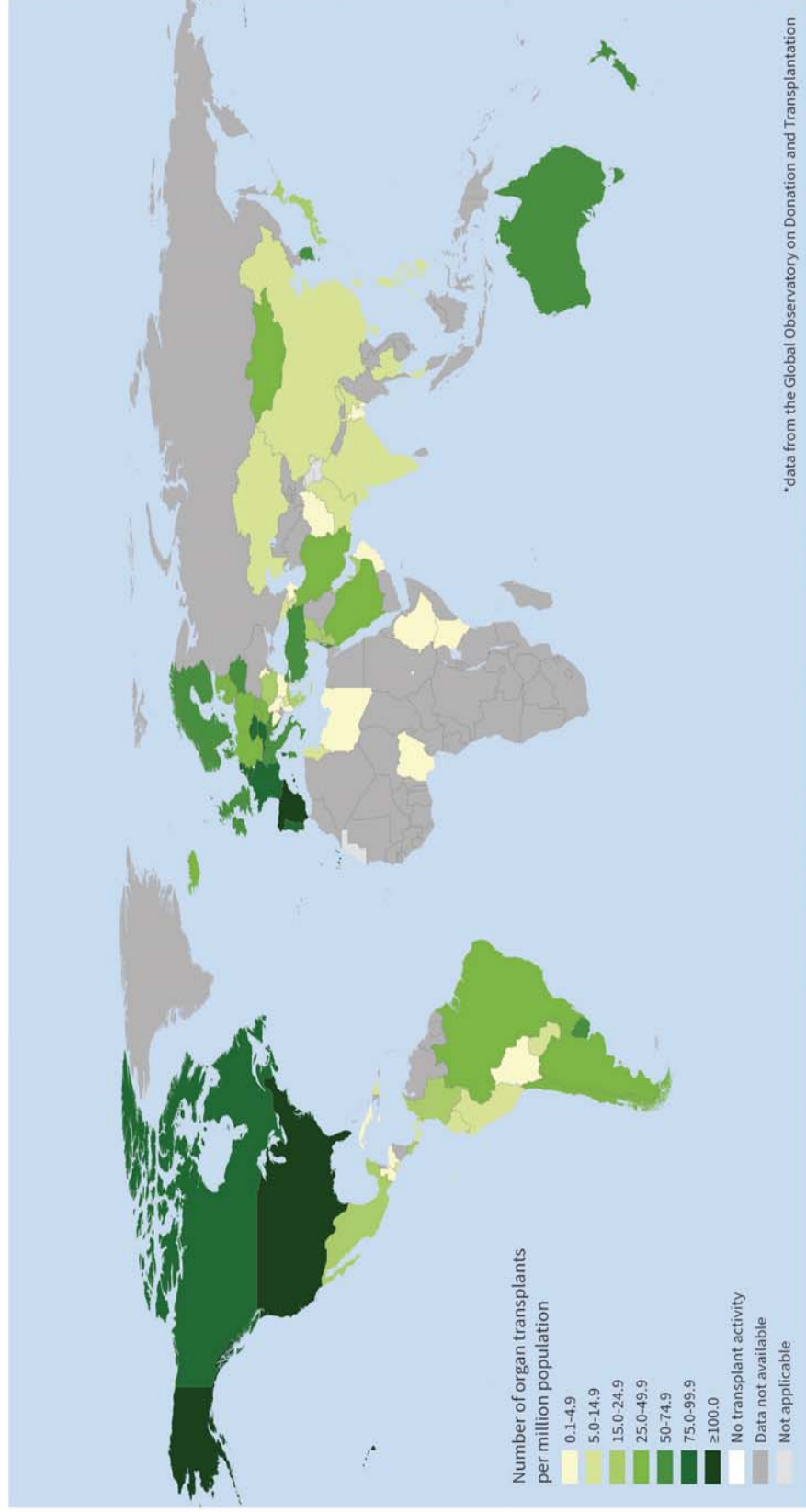


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Data Source: Global Observatory on Donation and Transplantation
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Global transplantation activities of solid organs, 2022*



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International Data on Organ Donation and Transplantation Activity and Waiting List. Year 2022



DONATION ACTIVITY

EUROPEAN UNION COUNTRIES

COUNTRIES	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland
Population (million inhabitants): UNFPA	9.1	11.7	6.8	4.1	1.2	10.7	5.8	1.3	5.6
DONATION									
Actual deceased organ donors	Number	Number	Number	Number	Number	Number	Number	Number	Number
Actual deceased organ donors (both DBD and DCD included)	222	342	14	95	4	298	84	25	114
Actual deceased donors (men)	120	204	11	45	2	182	42	16	63
Actual deceased donors (> 60 years)	86	97	3	50	0	99	41	8	58
Actual donors after circulatory death (DCD)	19	151	0	0	0	21	0	0	10
II/ Witnessed cardiac arrest (uncontrolled)		0	0	0	0	0	0	0	0
III/ Withdrawal of life-sustaining therapy (controlled)		148				21			10
IV/ Cardiac arrest while brain dead		0	0	0	0	0	0	0	0
V/ Medical assistance in dying		3	0.3			0	0.0	0.0	0
Utilised deceased organ donors									
Utilised deceased organ donors (both DBD and DCD included)	198	342	14	91	4	266	82	25	113
Utilised deceased donors (men)	105	204	11	42	2	163	40	16	63
Utilised deceased donors (> 60 years)	71	97	3	46	0	72	40	8	57
Utilised donors after circulatory death (DCD)	14	151	0	0	0	20	0	0	10
II/ Witnessed cardiac arrest (uncontrolled)		0	0	0	0	0	0	0	0
III/ Withdrawal of life-sustaining therapy (controlled)		148				20			10
IV/ Cardiac arrest while brain dead		0	0	0	0	0	0	0	0
V/ Medical assistance in dying		3	0.3			0	0.0	0.0	0
Living organ donors									
Total living kidney donors	55	55	1	10	8	40	78	4	42
Living Kidney donors (men)	40	15	0	4	1	18	28	1	18
Total living liver donors	2	28	0	0		8	0	0	0
Living liver donors (men)	0	10	0	0		2	0	0	0
Total domino liver donors	0	0	0	0		1	0	0	0
Domino liver donors (men)						1			
Total living lung donors	0	0	0	0		0	0	0	0
Living lung donors (men)						0			

DONATION ACTIVITY

EUROPEAN UNION COUNTRIES

COUNTRIES	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg
Population (million inhabitants): UNFPA	65.6	83.9	10.3	9.6	5.0	60.3	1.8	2.7	0.6
DONATION									
Actual deceased organ donors	Number	Number	Number	Number	Number	Number	Number	Number	Number
Actual deceased organ donors (both DBD and DCD included)	1694	869	69	122	86	1509	24	46	8
Actual deceased donors (men)	966	451	39	60	54	848	12	26	7
Actual deceased donors (> 60 years)	727	374	27	23	22	916	8	22	2
Actual donors after circulatory death (DCD)	235	0	0	0	13	143	0	1	0
II/ Witnessed cardiac arrest (uncontrolled)	0	0	0	0	0	19	0	0	0
III/ Withdrawal of life-sustaining therapy (controlled)	235	3.6			13	123	1	1	
IV/ Cardiac arrest while brain dead					0	1	0	0	
V/ Medical assistance in dying					0	0	0	0	
Utilised deceased organ donors	Number	Number	Number	Number	Number	Number	Number	Number	Number
Utilised deceased organ donors (both DBD and DCD included)	1660	842	66	119	82	1460	22	45	8
Utilised deceased donors (men)	946	434	37	60	52	819	12	25	7
Utilised deceased donors (> 60 years)	782	353	26	22	21	879	8	22	2
Utilised donors after circulatory death (DCD)	232	0	0	0	13	131	0	1	0
II/ Witnessed cardiac arrest (uncontrolled)	0	0	0	0	0	14	0	0	0
III/ Withdrawal of life-sustaining therapy (controlled)	232	3.5			13	116	1	1	
IV/ Cardiac arrest while brain dead					0	1	0	0	
V/ Medical assistance in dying					0	0	0	0	
Living organ donors	Number	Number	Number	Number	Number	Number	Number	Number	Number
Total living kidney donors	514	535	83	56	33	336	3	5	0
Living Kidney donors (men)	334	204	25	25	19	93	1	0	0
Total living liver donors	25	41	0	0	0	32	0	0	0
Living liver donors (men)	13	23	0	0	0	17	0	0	0
Total domino liver donors	3	1	0	0	0	2	0	0	0
Domino liver donors (men)	2	1	0	0	1	1	0	0	0
Total living lung donors	0	0	0	0	0	0	0	0	0
Living lung donors (men)									

DONATION ACTIVITY

[illegible]

DONATION ACTIVITY																						
OTHER COUNTRIES																						
COUNTRIES	Afghanistan	Albania	Armenia	Australia	Bangladesh	Barbados	Belarus	Bosnia and Herzegovina	Canada	China	Ethiopia											
Population (million inhabitants): UNFPA	40.8	2.9	3.0	26.1	167.9	0.3	9.4	3.2	38.4	1456.8	120.8											
DONATION																						
Actual deceased organ donors	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP										
Actual deceased organ donors (both DBD and DCD included)	0	0.0	0	0.0	0	0.0	241	25.6	0	0.0	5628	3.9										
Actual deceased donors (men)							152	16.2			4510	3.1										
Actual deceased donors (> 60 years)							39	4.1			881	0.6										
Actual donors after circulatory death (DCD)							0	0.0			1872	1.3										
II/ Witnessed cardiac arrest (uncontrolled)											1294	0.9										
III/ Withdrawal of life-sustaining therapy (controlled)											578	0.4										
IV/ Cardiac arrest while brain dead																						
V/ Medical assistance in dying																						
Utilised deceased organ donors																						
Utilised deceased organ donors (both DBD and DCD included)	0	0.0	0	0.0	0	0.0	235	25.0	0	0.0	5594	3.8										
Utilised deceased donors (men)							149	15.9			4486	3.1										
Utilised deceased donors (> 60 years)							36	3.8			875	0.6										
Utilised donors after circulatory death (DCD)							0	0.0	262	6.8	1856	1.3										
II/ Witnessed cardiac arrest (uncontrolled)											1282	0.9										
III/ Withdrawal of life-sustaining therapy (controlled)											574	0.4										
IV/ Cardiac arrest while brain dead																						
V/ Medical assistance in dying																						
Living organ donors																						
Total living kidney donors	132	3.2	13	4.5	22	7.3	226	8.7	269	1.6	1	3.3	5	0.5	8	2.5	485	12.6	2525	1.7	9	0.1
Living Kidney donors (men)	94	2.3	2	0.7	8	2.7	101	3.9	53	0.3	0	0.0	3	0.3	4	1.3		854	0.6	3	0.0	
Total living liver donors	0	0.0	0	0.0	2	0.7	0	0.0	0	0.0	0	0.0	4	0.4	0	0.0	91	2.4	752	0.5	0	0.0
Living liver donors (men)													1	0.1	0	0.0		331	0.2			
Total domino liver donors	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		5	0.0	0	0.0	
Domino liver donors (men)																		2	0.0			
Total living lung donors	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Living lung donors (men)																						

DONATION ACTIVITY

OTHER COUNTRIES

COUNTRIES	Georgia	Iceland	India	Iran	Israel	Japan	Kazakhstan	Kenya	Kuwait	Libyan Arab Jamahiriya
Population (million inhabitants): UNFPA	4.0	0.3	1406.6	86.0	8.9	125.6	19.2	56.2	4.4	7.0
DONATION										
Actual deceased organ donors	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number
Actual deceased organ donors (both DBD and DCD included)	PMP	PMP	PMP	PMP	PMP	PMP	PMP	PMP	PMP	PMP
Actual deceased donors (men)	0	10	941	1016	102	108	4	0	32	0
Actual deceased donors (> 60 years)	0	6	700	157	60	58	3	0	21	0
Actual donors after circulatory death (DCD)	0	5	146	157	41	17	0	2	2	0
Actual donors after circulatory death (DCD)	0	0	0	0	3	15	0	0	0	0
II/ Witnessed cardiac arrest (uncontrolled)					3	15	0			
III/ Withdrawal of life-sustaining therapy (controlled)					0	0				
IV/ Cardiac arrest while brain dead					0	0				
V/ Medical assistance in dying					0	0				
Utilised deceased organ donors										
Utilised deceased organ donors (both DBD and DCD included)	0	10	920	1000	99	108	4	0	30	0
Utilised deceased donors (men)	0	6	688	143	58	58	3	0	20	0
Utilised deceased donors (> 60 years)	0	5	136	143	41	17	0	2	2	0
Utilised donors after circulatory death (DCD)	0	0	0	0	1	15	0	0	0	0
II/ Witnessed cardiac arrest (uncontrolled)					1	15				
III/ Withdrawal of life-sustaining therapy (controlled)					0	0				
IV/ Cardiac arrest while brain dead					0	0				
V/ Medical assistance in dying					0	0				
Living organ donors										
Total living kidney donors	34	3	10164		319	1458	169	55	50	18
Living Kidney donors (men)	20	1	7103		168	528	81	36	34	9
Total living liver donors	11	0	3187		7	336	41	0	0	0
Living liver donors (men)	8	0	2149		4	172	25	0	0	0
Total domino liver donors	0	0	8		1	0	0	0	0	0
Domino liver donors (men)	0	0	4		1	0	0	0	0	0
Total living lung donors	0	0	0		0	28	0	0	0	0
Living lung donors (men)						15	0.1			

DONATION ACTIVITY												
COUNTRIES	OTHER COUNTRIES											
	Mongolia	New Zealand	Nigeria	Norway	Oman	Pakistan	Philippines	Qatar	Republic of Korea	Republic of Moldova	Republic of North Macedonia	
Population (million inhabitants): UNFPA	3.4	4.9	216.7	5.5	5.3	229.5	112.5	3.0	51.3	4.0	2.1	
DONATION												
Actual deceased organ donors	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number
Actual deceased organ donors (both DBD and DCD included)	PMP	PMP	PMP	PMP	PMP	PMP	PMP	PMP	PMP	PMP	PMP	PMP
Actual deceased donors (men)	3	63	0	111	1	0	20	10	405	3	5	2.4
Actual deceased donors (> 60 years)	3	38		59	1		14	9	258	2	2	1.0
Actual donors after circulatory death (DCD)	1	17		51	0		0	0	113	2	0	0.0
II/ Witnessed cardiac arrest (uncontrolled)	0	10		7	0		0	0	0	0	0	0.0
III/ Withdrawal of life-sustaining therapy (controlled)				0								
IV/ Cardiac arrest while brain dead				7								
V/ Medical assistance in dying				0								
Utilised deceased organ donors												
Utilised deceased organ donors (both DBD and DCD included)	2	59	0	109	1	0	20	10	405	3	5	2.4
Utilised deceased donors (men)	2	38		58	1		14	9	258	2	2	1.0
Utilised deceased donors (> 60 years)	0	14		50	0		0	0	113	2	0	0.0
Utilised donors after circulatory death (DCD)	0	9		6	0		0	0	0	0	0	0.0
II/ Witnessed cardiac arrest (uncontrolled)				0								
III/ Withdrawal of life-sustaining therapy (controlled)				6								
IV/ Cardiac arrest while brain dead				0								
V/ Medical assistance in dying				0								
Living organ donors												
Total living kidney donors	36	70	222	43	9	1709	553	37	1357	0	12	5.7
Living Kidney donors (men)	18	36	174	22	3			19	556	0	5	2.4
Total living liver donors	73		0	1	10	401	0	3	1111	4	0	0.0
Living liver donors (men)	39			1	5			3	635	3	0	0.0
Total domino liver donors	0	1	0	0	0	0	0	0	0	0	0	0.0
Domino liver donors (men)												
Total living lung donors	0	1	0	0	0	0	0	0	0	0	0	0.0
Living lung donors (men)												

DONATION ACTIVITY

OTHER COUNTRIES

[illegible]

DONATION ACTIVITY

LATIN AMERICAN COUNTRIES

COUNTRIES	Argentina	Bolivia	Brazil	Chile	Colombia	Costa Rica	Cuba	Dominican Republic	Ecuador							
Population (million inhabitants): UNFPA	46.0	12.0	215.4	19.3	51.5	5.2	11.3	11.1	18.1							
DONATION																
Actual deceased organ donors Actual deceased organ donors (both DBD and DCD included) Actual deceased donors (men) Actual deceased donors (> 60 years) Actual donors after circulatory death (DCD) II/ Witnessed cardiac arrest (uncontrolled) III/ Withdrawal of life-sustaining therapy (controlled) IV/ Cardiac arrest while brain dead V/ Medical assistance in dying	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP						
	767	16.7	0	0.0	3266	15.2	171	8.9	332	6.4	27	5.2	10	0.9	91	5.0
	426	9.3			1972	9.2	96	5.0	209	4.1	14	2.7	10	0.9	54	3.0
	139	3.0			716	3.3	39	2.0	39	0.8	3	0.6	0	0.0	1	0.1
	7	0.2			0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	0	0.0														
	7	0.2														
	0	0.0														
	0	0.0														
Utilised deceased organ donors Utilised deceased organ donors (both DBD and DCD included) Utilised deceased donors (men) Utilised deceased donors (> 60 years) Utilised donors after circulatory death (DCD) II/ Witnessed cardiac arrest (uncontrolled) III/ Withdrawal of life-sustaining therapy (controlled) IV/ Cardiac arrest while brain dead V/ Medical assistance in dying	689	15.0	0	0.0	2897	13.4	163	8.4	331	6.4	27	5.2	10	0.9	85	4.7
	376	8.2			1755	8.1	93	4.8	208	4.0	14	2.7	10	0.9	52	2.9
	109	2.4			525	2.4	34	1.8	39	0.8	3	0.6	0	0.0	0	0.0
	7	0.2			0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	0	0.0														
	7	0.2														
	0	0.0														
	0	0.0														
Living organ donors Total living kidney donors Living Kidney donors (men) Total living liver donors Living liver donors (men) Total domino liver donors Domino liver donors (men) Total living lung donors Living lung donors (men)	259	5.6	50	4.2	418	1.9	73	3.8	234	4.5	29	5.6	42	3.8	2	0.1
	119	2.6	25	2.1	167	0.8	25	1.3	99	1.9	11	2.1	36	3.2	0	0.0
	59	1.3	1	0.1	61	0.3	23	1.2	75	1.5	2	0.4	0	0.0	0	0.0
	25	0.5	0	0.0	39	0.2	16	0.8	26	0.5	0	0.0	0	0.0	0	0.0
	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

DONATION ACTIVITY

LATIN AMERICAN COUNTRIES

COUNTRIES	El Salvador	Guatemala	Honduras	Mexico	Panama	Paraguay	Peru	Uruguay
Population (million inhabitants): UNFPA	6.6	18.6	10.2	131.6	4.4	7.3	33.7	3.5
DONATION								
Actual deceased organ donors	Number	Number	Number	Number	Number	Number	Number	Number
Actual deceased organ donors (both DBD and DCD included)	0	0	0	398	18	15	42	75
Actual deceased donors (men)				248	10	13	25	50
Actual deceased donors (> 60 years)				33	1	1	1	14
Actual donors after circulatory death (DCD)				0	0	0	0	0
II/ Witnessed cardiac arrest (uncontrolled)								
III/ Withdrawal of life-sustaining therapy (controlled)								
IV/ Cardiac arrest while brain dead								
V/ Medical assistance in dying								
Utilised deceased organ donors	Number	Number	Number	Number	Number	Number	Number	Number
Utilised deceased organ donors (both DBD and DCD included)	0	0	0	392	18	15	41	73
Utilised deceased donors (men)				245	10	13	25	49
Utilised deceased donors (> 60 years)				32	1	1	1	13
Utilised donors after circulatory death (DCD)				0	0	0	0	0
II/ Witnessed cardiac arrest (uncontrolled)								
III/ Withdrawal of life-sustaining therapy (controlled)								
IV/ Cardiac arrest while brain dead								
V/ Medical assistance in dying								
Living organ donors	Number	Number	Number	Number	Number	Number	Number	Number
Total living kidney donors	35	9	4	1988	17	6	49	7
Living Kidney donors (men)	15	4	1	929	9	1	21	1
Total living liver donors	0	0	0	20	0	0	5	0
Living liver donors (men)				9			4	
Total domino liver donors	0	0	0	0	0	0	0	0
Domino liver donors (men)								
Total living lung donors	0	0	0	0	0	0	0	0
Living lung donors (men)								

TRANSPLANTATION ACTIVITY EUROPEAN UNION COUNTRIES

COUNTRIES Population (million inhabitants): UNFPA		Austria 9.1		Belgium 11.7		Bulgaria 6.8		Croatia 4.1		Cyprus 1.2		Czech Republic 10.7		Denmark 5.8		Estonia 1.3		Finland 5.6	
TRANSPLANTATION																			
KIDNEY		Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP
Total Tx (all combinations included)		336	36.9	478	40.9	12	1.8	112	27.3	16	13.3	520	48.6	242	41.7	34	26.2	250	44.6
Kidney Tx (men)		219	24.1			9	1.3	73	17.8	14	11.7	336	31.4	144	24.8	16	12.3	150	26.8
Paediatric (<18 years)		9	1.0			0	0.0	3	0.7	0	0.0	5	0.5	8	1.4	3	2.3	10	1.8
Tx from deceased donors		281	30.9	423	36.2	11	1.6	102	24.9	8	6.7	480	44.9	164	28.3	30	23.1	208	37.1
- Tx from DCD		39	4.3	165	14.1	0	0.0	0	0.0	0	0.0	37	3.5	4	0.7	0	0.0	20	3.6
- Single Tx		280	30.8	419	35.8			8	6.7	8	6.7	475	44.4	164	28.3	29	22.3	208	37.1
- Double Tx		1	0.1					0	0.0	0	0.0	5	0.5	0	0.0	1	0.8	0	0.0
Tx from living donors		55	6.0	55	4.7	1	0.1	10	2.4	8	6.7	40	3.7	78	13.4	4	3.1	42	7.5
- Tx from related living donors		52	5.7	51	4.4	1	0.1	10	2.4	8	6.7	24	2.2	75	12.9	4	3.1	39	7.0
- Tx from unrelated living donors		3	0.3	4	0.3	0	0.0	0	0.0	0	0.0	16	1.5	3	0.5	0	0.0	3	0.5
Paired exchange or cross-over				0	0.0							2	0.2	1	0.2			1	0.2
Non-directed altruistic or anonymous				0	0.0							2	0.2	2	0.3			2	0.4
Directed altruistic				4	0.3							0	0.0	0	0.0			0	0.0
LIVER		169	18.6	297	25.4	6	0.9	89	21.7			180	16.8	46	7.9	9	6.9	62	11.1
Total Tx (all combinations included)		123	13.5			4	0.6	69	16.8			118	11.0	28	4.8	5	3.8	32	5.7
Liver Tx (men)		9	1.0			0	0.0	1	0.2			16	1.5	4	0.7	0	0.0	7	1.3
Paediatric (<18 years)		5	0.5	2	0.2	0	0.0	0	0.0			4	0.4	2	0.3	0	0.0	0	0.0
Split Tx		0	0.0	0	0.0	0	0.0	0	0.0			1	0.1	0	0.0	0	0.0	0	0.0
Domino Tx						0	0.0	0	0.0			8	0.7	0	0.0	0	0.0	0	0.0
Tx from living donors		2	0.2	28	2.4	0	0.0	0	0.0			5	0.5	0	0.0	0	0.0	0	0.0
Tx from DCD		14	1.5	116	9.9	0	0.0	0	0.0							0	0.0	0	0.0
HEART		62	6.8	63	5.4	2	0.3	38	9.3			81	7.6	27	4.7			19	3.4
Total Tx (all combinations included)		40	4.4	51	4.4	2	0.3	30	7.3			66	6.2	22	3.8			13	2.3
Heart Tx (men)		4	0.4	4	0.3	0	0.0	5	1.2			6	0.6	2	0.3			6	1.1
Paediatric (<18 years)		1	0.1	0	0.0	0	0.0	0	0.0			0	0.0	0	0.0			0	0.0
Tx from DCD																			
HEART-LUNG		1	0.1	0	0.0	0	0.0					0	0.0	0	0.0			0	0.0
Total Tx		0	0.0																
Paediatric (<18 years)																			
LUNG		102	11.2	95	8.1	0	0.0	10	2.4			54	5.0	23	4.0	3	2.3	20	3.6
Total Tx (all combinations included)		61	6.7			0	0.0	6	1.5			34	3.2	16	2.8	3	2.3	11	2.0
Lung Tx (men)		0	0.0	0	0.0	0	0.0	1	0.2			1	0.1	0	0.0	0	0.0	0	0.0
Paediatric (<18 years)				0	0.0	0	0.0	0	0.0										
Single Tx		12	1.3	4	0.3	0	0.0	0	0.0					3	0.5	0	0.0	0	0.0
Double Tx (heart-lung Tx included)		90	9.9	91	7.8	0	0.0	10	2.4					20	3.4	3	2.3	20	3.6
Tx from DCD (double + single)		15	1.6	32	2.7	0	0.0	0	0.0			1	0.1	0	0.0	0	0.0	0	0.0
PANCREAS		18	2.0	22	1.9	0	0.0	6	1.5			31	2.9	3	0.5	4	3.1	20	3.6
Total Tx (all combinations included)		10	1.1	13	1.1			5	1.2			19	1.8	0	0.0	0	0.0	12	2.1
Pancreas Tx (men)		0	0.0	0	0.0	0	0.0	0	0.0			0	0.0	0	0.0	0	0.0	0	0.0
Paediatric (<18 years)		1	0.1	8	0.7	0	0.0	0	0.0			4	0.4	0	0.0	0	0.0	1	0.2
Pancreas Tx alone		17	1.9	13	1.1			6	1.5			26	2.4	3	0.5	4	3.1	19	3.4
Kidney – Pancreas Tx								0	0.0			0	0.0	0	0.0	0	0.0	0	0.0
Tx from DCD		1	0.1	2	0.2			0	0.0			0	0.0	0	0.0	0	0.0	0	0.0
SMALL BOWEL		0	0.0	2	0.2	0	0.0	1	0.2			1	0.1	0	0.0			0	0.0
Total Tx (all combinations included)								1	0.2			0	0.0						
Small bowel Tx (men)				0	0.0			1	0.2			0	0.0						
Paediatric (<18 years)				0	0.0			0	0.0			0	0.0						
Small bowel Tx alone				0	0.0			0	0.0			0	0.0						
Tx from DCD								0	0.0			0	0.0						
RECIPIENTS		663	72.9	957	81.8	20	2.9	245	59.8	16	13.3	839	78.4	338	58.3	46	35.4	350	62.5
Total number of patients transplanted		440	48.4			15	2.2	177	43.2	14	11.7	557	52.1	210	36.2	24	18.5	205	36.6
Male recipients		22	2.4			0	0.0	9	2.2	0	0.0	28	2.6	14	2.4	3	2.3	23	4.1
Paediatric (<18 years)		57	6.3	83	7.1	1	0.1	10	2.4	8	6.7	48	4.5	78	13.4	4	3.1	42	7.5
Patients transplanted from living donors																			

TRANSPLANTATION ACTIVITY

EUROPEAN UNION COUNTRIES

COUNTRIES Population (million inhabitants): UNFPA	France 65.6	Germany 83.9	Greece 10.3	Hungary 9.6	Ireland 5.0	Italy 60.3	Latvia 1.8	Lithuania 2.7	Luxembourg 0.6
TRANSPLANTATION									
	Number	Number	Number	Number	Number	Number	Number	Number	Number
	PMP	PMP	PMP	PMP	PMP	PMP	PMP	PMP	PMP
KIDNEY									
Total Tx (all combinations included)	3377	1966	187	246	163	2033	43	82	0
Kidney Tx (men)	3377	1234	116	147	93	1260	22	52	0
Paediatric (<18 years)	115	103	6	15	11	46	3	0	0
Tx from deceased donors	2863	1431	104	190	130	1697	40	77	0
- Tx from DCD	407	0	0	0	21	101	0	2	0
- Single Tx	2854	1416	104	190	128	1570	40	75	0
- Double Tx	9	15	0	0	2	127	0	0	0
Tx from living donors	514	535	83	56	33	336	3	5	1
- Tx from related living donors	514	514	78	56	33	321	3	5	1
- Tx from unrelated living donors	0	0	5	0	0	15	0	0	0
Paired exchange or cross-over	0	0	0	0	0	0	0	0	0
Non-directed altruistic or anonymous	0	0	5	0	0	15	0	0	0
Directed altruistic	0	0	0	0	0	0	0	0	0
LIVER									
Total Tx (all combinations included)	1294	748	36	67	51	1479	3	32	0
Liver Tx (men)	892	475	19	41	34	1088	2	22	0
Paediatric (<18 years)	103	83	0	6	0	84	0	1	0
Split Tx	77	42	0	0	0	89	0	0	0
Domino Tx	3	1	0	0	0	2	0	0	0
Tx from living donors	25	41	0	0	0	32	0	0	0
Tx from DCD	161	0	0	0	0	114	0	1	0
HEART									
Total Tx (all combinations included)	419	356	12	40	10	253	2	9	0
Heart Tx (men)	297	239	9	28	6	188	0	8	0
Paediatric (<18 years)	33	46	0	3	0	21	0	0	0
Tx from DCD	0	0	0	0	0	0	0	0	0
HEART-LUNG									
Total Tx	8	5	0	0	0	2	0	0	0
Paediatric (<18 years)	0	1	0	0	0	0	0	0	0
LUNG									
Total Tx (all combinations included)	342	254	11	12	18	139	0	1	0
Lung Tx (men)	195	159	7	6	11	90	0	1	0
Paediatric (<18 years)	9	4	0	1	0	3	0	0	0
Single Tx	43	15	0	0	9	21	0	1	0
Double Tx (heart-lung Tx included)	299	239	0	12	9	118	0	0	0
Tx from DCD (double + single)	28	0	0	0	0	5	0	0	0
PANCREAS									
Total Tx (all combinations included)	70	44	0	4	8	38	0	1	0
Pancreas Tx (men)	41	20	0	1	4	21	0	1	0
Paediatric (<18 years)	0	1	0	0	0	0	0	0	0
Pancreas Tx alone	2	3	0	0	0	5	0	0	0
Kidney – Pancreas Tx	68	38	0	4	8	32	0	1	0
Tx from DCD	6	0	0	0	0	38	0	0	0
SMALL BOWEL									
Total Tx (all combinations included)	1	2	0	0	0	1	0	0	0
Small bowel Tx (men)	1	1	0	0	0	1	0	0	0
Paediatric (<18 years)	0	0	0	0	0	0	0	0	0
Small bowel Tx alone	0	0	0	0	0	0	0	0	0
Tx from DCD	0	0	0	0	0	0	0	0	0
RECIPIENTS									
Total number of patients transplanted	5318	3311	246	360	242	3876	48	123	0
Male recipients	3462	2104	151	219	144	2608	24	83	0
Paediatric (<18 years)	251	233	6	25	11	151	3	0	0
Patients transplanted from living donors	539	576	83	56	33	368	3	5	1

TRANSPLANTATION ACTIVITY

EUROPEAN UNION COUNTRIES

COUNTRIES Population (million inhabitants): UNFPA	Malta 0.4	Netherlands 17.2	Poland 37.7	Portugal 10.1	Romania 19.0	Slovakia 5.5	Slovenia 2.1	Spain 46.7	Sweden 10.2											
TRANSPLANTATION																				
	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP										
KIDNEY Total Tx (all combinations included) Kidney Tx (men) Paediatric (<18 years) Tx from deceased donors - Tx from DCD - Single Tx - Double Tx Tx from living donors - Tx from related living donors - Tx from unrelated living donors Paired exchange or cross-over Non-directed altruistic or anonymous Directed altruistic	14	35.0	1008	58.6	874	23.2	495	49.0	230	12.1	154	28.0	53	25.2	3404	72.9	465	45.6		
	10	25.0	639	37.2	533	14.1	332	32.9	154	8.1	105	19.1	40	19.0	2179	46.7	294	28.8		
	0	0.0	25	1.5	31	0.8	11	1.1	14	0.7	4	0.7	0	0.0	81	1.7	18	1.8		
	10	25.0	492	28.6	801	21.2	437	43.3	157	8.3	124	22.5	51	24.3	3054	65.4	366	35.9		
	0	0.0	273	15.9	0	0.0	35	3.5	0	0.0	0	0.0	0	0.0	1301	27.9	83	8.1		
	0	0.0	489	28.4	801	21.2	433	42.9	157	8.3	123	22.4	51	24.3	3047	65.2	360	35.3		
	- Double Tx		3	0.2	0	0.0	4	0.4	0	0.0	1	0.2	0	0.0	7	0.1	6	0.6		
	Tx from living donors	4	10.0	516	30.0	73	1.9	58	5.7	73	3.8	30	5.5	2	1.0	350	7.5	99	9.7	
	- Tx from related living donors	4	10.0	479	27.8	73	1.9	52	5.1	69	3.6	30	5.5	2	1.0	326	7.0	94	9.2	
	- Tx from unrelated living donors	0	0.0	37	2.2	0	0.0	6	0.6	4	0.2	0	0.0	0	0.0	24	0.5	5	0.5	
LIVER Total Tx (all combinations included) Liver Tx (men) Paediatric (<18 years) Split Tx Domino Tx Tx from living donors Tx from DCD	0	0.0	211	12.3	362	9.6	202	20.0	75	3.9	43	7.8	18	8.6	1159	24.8	166	16.3		
			116	6.7	209	5.5	139	13.8	46	2.4	30	5.5	9	4.3	849	18.2	110	10.8		
			25	1.5	41	1.1	9	0.9	3	0.2	0	0.0	0	0.0	70	1.5	18	1.8		
			0	0.0	0	0.0	1	0.1	2	0.1	0	0.0	0	0.0	32	0.7	9	0.9		
			0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
			26	1.5	28	0.7	0	0.0	4	0.2	0	0.0	0	0.0	5	0.1	0	0.0		
			82	4.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	375	8.0	10	1.0		
	HEART Total Tx (all combinations included) Heart Tx (men) Paediatric (<18 years) Tx from DCD	0	0.0	51	3.0	173	4.6	37	3.7	7	0.4	20	3.6	29	13.8	311	6.7	55	5.4	
				31	1.8	147	3.9	30	3.0	4	0.2	16	2.9	21	10.0	219	4.7	35	3.4	
				2	0.1	17	0.5	1	0.1	2	0.1	2	0.4	1	0.5	37	0.8	10	1.0	
			19	1.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	37	0.8	0	0.0		
HEART-LUNG Total Tx Paediatric (<18 years)		0	0.0	1	0.1	1	0.0			0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	
				0	0.0	0	0.0											0	0.0	
		LUNG Total Tx (all combinations included) Lung Tx (men) Paediatric (<18 years) Single Tx Double Tx (heart-lung Tx included) Tx from DCD (double + single)	0	0.0	122	7.1	93	2.5	39	3.9	2	0.1	0	0.0	10	4.8	415	8.9	50	4.9
					65	3.8	59	1.6	22	2.2	1	0.1	0	0.0	3	1.4	257	5.5	27	2.6
					3	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	7	0.1	1	0.1
					1	0.1	17	0.5	2	0.2	1	0.1	0	0.0	1	0.5	60	1.3	3	0.3
				120	7.0	76	2.0	37	3.7	1	0.1	0	0.0	9	4.3	355	7.6	47	4.6	
				52	3.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	152	3.3	6	0.6	
	PANCREAS Total Tx (all combinations included) Pancreas Tx (men) Paediatric (<18 years) Pancreas Tx alone Kidney – Pancreas Tx Tx from DCD		0	0.0	26	1.5	18	0.5	25	2.5	0	0.0	0	0.0	1	0.5	92	2.0	18	1.8
					9	0.5	9	0.2	12	1.2	0	0.0	0	0.0	0	0.0	49	1.0	11	1.1
				0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	0.1	0	0.0	
				5	0.3	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	13	0.3	1	0.1	
			21	1.2	18	0.5	24	2.4	0	0.0	0	0.0	1	0.5	75	1.6	16	1.6		
					0	0.0	0	0.0					0	0.0	20	0.4	1	0.1		
SMALL BOWEL Total Tx (all combinations included) Small bowel Tx (men) Paediatric (<18 years) Small bowel Tx alone Tx from DCD		0	0.0	1	0.1	0	0.0			0	0.0					4	0.1	1	0.1	
				1	0.1											3	0.1	0	0.0	
				0	0.0											4	0.1	0	0.0	
				0	0.0											0	0.0	0	0.0	
			1	0.1											0	0.0	0	0.0		
			0	0.0											2	0.0	0	0.0		
	RECIPIENTS Total number of patients transplanted Male recipients Paediatric (<18 years) Patients transplanted from living donors	14	35.0	1402	81.5	1495	39.7	798	79.0	314	16.5	217	39.5	107	51.0	5251	112.4	733	71.9	
		10	25.0	856	49.8	937	24.9	535	53.0	205	10.8	151	27.5	71	33.8	3477	74.5	463	45.4	
		0	0.0	55	3.2	89	2.4	22	2.2	19	1.0	6	1.1	1	0.5	188	4.0	47	4.6	
		4	10.0	542	31.5	101	2.7	58	5.7	77	4.1	30	5.5	2	1.0	355	7.6	99	9.7	

TRANSPLANTATION ACTIVITY

OTHER COUNTRIES

COUNTRIES	Afghanistan	Albania	Armenia	Australia	Bangladesh	Barbados	Belarus	Bosnia and Herzegovina	Canada	China	Ethiopia	
Population (million inhabitants): UNFPA	40.8	2.9	3.0	26.1	167.9	0.3	9.4	3.2	38.4	1456.8	120.8	
TRANSPLANTATION												
	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	
KIDNEY												
Total Tx (all combinations included)	132	3.2	13	4.5	22	7.3	941	36.1	269	1.6	1	3.3
Kidney Tx (men)	107	2.6	10	3.4	19	6.3	526	20.2	217	1.3	1	3.3
Paediatric (<18 years)	4	0.1	0	0.0	2	0.7	37	1.4	0	0.0	0	0.0
Tx from deceased donors	0	0.0	0	0.0	0	0.0	715	27.4	0	0.0	0	0.0
- Tx from DCD							181	6.9				
- Single Tx							701	26.9				
- Double Tx							14	0.5				
Tx from living donors	132	3.2	13	4.5	22	7.3	226	8.7	269	1.6	1	3.3
- Tx from related living donors	90	2.2	13	4.5	22	7.3	183	7.0	269	1.6	1	3.3
- Tx from unrelated living donors	42	1.0	0	0.0	0	0.0	43	1.6	0	0.0	0	0.0
Paired exchange or cross-over	42	1.0	0	0.0	0	0.0	42	1.6	0	0.0	0	0.0
Non-directed altruistic or anonymous	0	0.0	0	0.0	0	0.0	2	0.1	0	0.0	0	0.0
Directed altruistic	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
LIVER												
Total Tx (all combinations included)	0	0.0	0	0.0	2	0.7	260	10.0	0	0.0	0	0.0
Liver Tx (men)			1	0.3	1	0.3	43	4.6	0	0.0	0	0.0
Paediatric (<18 years)			0	0.0	0	0.0	41	1.6	0	0.0		
Split Tx			0	0.0	0	0.0	0	0.0	0	0.0		
Domino Tx			2	0.7	0	0.0	0	0.0	0	0.0		
Tx from living donors			0	0.0	0	0.0	16	0.6	0	0.0		
Tx from DCD			0	0.0	0	0.0						
HEART												
Total Tx (all combinations included)	0	0.0	0	0.0	0	0.0	117	4.5	0	0.0	0	0.0
Heart Tx (men)							10	0.4				
Paediatric (<18 years)												
Tx from DCD												
HEART-LUNG												
Total Tx	0	0.0	0	0.0	0	0.0	6	0.2	0	0.0	0	0.0
Paediatric (<18 years)												
LUNG												
Total Tx (all combinations included)	0	0.0	0	0.0	0	0.0	142	5.4	0	0.0	0	0.0
Lung Tx (men)												
Paediatric (<18 years)							24	0.9				
Single Tx							118	4.5				
Double Tx (heart-lung Tx included)							23	0.9				
Tx from DCD (double + single)												
PANCREAS												
Total Tx (all combinations included)	0	0.0	0	0.0	0	0.0	47	1.8	0	0.0	0	0.0
Pancreas Tx (men)							0	0.0				
Paediatric (<18 years)							3	0.1				
Pancreas Tx alone							42	1.6				
Kidney – Pancreas Tx							5	0.2				
Tx from DCD												
SMALL BOWEL												
Total Tx (all combinations included)	0	0.0	0	0.0	0	0.0	2	0.1	0	0.0	0	0.0
Small bowel Tx (men)							0	0.0				
Paediatric (<18 years)							0	0.0				
Small bowel Tx alone							0	0.0				
Tx from DCD							0	0.0				
RECIPIENTS												
Total number of patients transplanted	132	3.2	13	4.5	24	8.0	1447	55.4	269	1.6	1	3.3
Male recipients	107	2.6	10	3.4	20	6.7	209	22.2	217	1.3	1	3.3
Paediatric (<18 years)	4	0.1	0	0.0	3	1.0	23	2.4	0	0.0	0	0.0
Patients transplanted from living donors	132	3.2	13	4.5	24	8.0	226	8.7	269	1.6	1	3.3

TRANSPLANTATION ACTIVITY

OTHER COUNTRIES

COUNTRIES	Georgia	Iceland	India	Iran	Israel	Japan	Kazakhstan	Kenya	Kuwait	Libyan Arab Jamahiriya
Population (million inhabitants): UNFPA	4.0	0.3	1406.6	86.0	8.9	125.6	19.2	56.2	4.4	7.0
TRANSPLANTATION										
KIDNEY	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP
Total Tx (all combinations included)	34	8	11705	2431	468	1656	176	55	99	18
Kidney Tx (men)		6	8061		328	1052	128	31	69	16
Paediatric (<18 years)		1	271	133	25	68	24	3	3	0
- Tx from deceased donors	0	5	1541	1247	149	198	7	0	49	0
- Tx from DCD		0	0	0	2	28	0	0	0	0
- Single Tx		5	1519	1241	143	194	7	0	48	0
- Double Tx		0	22	6	6	4	0	0	1	0
Tx from living donors	34	3	10164	1184	319	1458	169	55	50	18
- Tx from related living donors		3	8000	100	133	1458	169	55	50	18
- Tx from unrelated living donors		0	2164	1084	186	0	0	0	0	0
Paired exchange or cross-over		0	119		66	0	0	0	0	0
Non-directed altruistic or anonymous			0		145					
Directed altruistic			2045		6					
LIVER	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP
Total Tx (all combinations included)	11	0	3920	893	99	422	43	0	0	0
Liver Tx (men)			2756		69	204	19	0	0	0
Paediatric (<18 years)			417	30	15	129	4	0	0	0
Split Tx	0		10	6	4	10	0	0	0	0
Domino Tx	0		9	0	1	0	0	0	0	0
Tx from living donors	11		3174	83	7	336	41	0	0	0
Tx from DCD	0		0	0	0	0	0	0	0	0
HEART	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP
Total Tx (all combinations included)	0	0	243	130	32	79	4	0	1	0
Heart Tx (men)			183		21	52	2	0	0	0
Paediatric (<18 years)			29	31	4	8	0	0	0	0
Tx from DCD			0	0	0	0	0	0	0	0
HEART-LUNG	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP
Total Tx	0	0	23	0	0	0	0	0	0	0
Paediatric (<18 years)			2							
LUNG	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP
Total Tx (all combinations included)	0	0	144	9	61	108	3	0	0	0
Lung Tx (men)			79		37	61	0	0	0	0
Paediatric (<18 years)			4		0	9	0	0	0	0
Single Tx			12	1	22	48	3	0	0	0
Double Tx (heart-lung Tx included)			132	8	39	46	0	0	0	0
Tx from DCD (double + single)			0	0	0	0	0	0	0	0
PANCREAS	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP
Total Tx (all combinations included)	0	0	26	38	3	30	0	0	0	0
Pancreas Tx (men)			19		2	7	0	0	0	0
Paediatric (<18 years)			0	2	0	0	0	0	0	0
Pancreas Tx alone			4	5	0	3	0	0	0	0
Kidney – Pancreas Tx			22	33	3	27	0	0	0	0
Tx from DCD			0	0	0	0	0	0	0	0
SMALL BOWEL	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP
Total Tx (all combinations included)	0	0	3	9	0	5	0	0	0	0
Small bowel Tx (men)			3			1	0	0	0	0
Paediatric (<18 years)			0			3	0	0	0	0
Small bowel Tx alone			3	7		4	0	0	0	0
Tx from DCD			0			0	0	0	0	0
RECIPIENTS	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP
Total number of patients transplanted	45	8	15968	1267	656	2263	226	55	100	18
Male recipients		6	11069		452	1366	149	31	69	16
Paediatric (<18 years)	8	1	721		44	216	28	3	3	0
Patients transplanted from living donors	45	3	13338		326	1808	210	55	50	18

TRANSPLANTATION ACTIVITY

OTHER COUNTRIES

COUNTRIES	Mongolia 3.4	New Zealand 4.9	Nigeria 216.7	Norway 5.5	Oman 5.3	Pakistan 229.5	Philippines 112.5	Qatar 3.0	Republic of Korea 51.3	Republic of Moldova 4.0	Republic of North Macedonia 2.1	
Population (million inhabitants): UNFPA	3.4	4.9	216.7	5.5	5.3	229.5	112.5	3.0	51.3	4.0	2.1	
TRANSPLANTATION												
KIDNEY Total Tx (all combinations included) Kidney Tx (men) Paediatric (<18 years) Tx from deceased donors - Tx from DCD - Single Tx - Double Tx Tx from living donors - Tx from related living donors - Tx from unrelated living donors Paired exchange or cross-over Non-directed altruistic or anonymous Directed altruistic	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP	PMP	
	40	11.8	174	35.5	11	2.1	1709	7.4	2034	39.6	22	10.5
	31	9.1	97	19.8	4	0.8	378	3.4	1248	24.3	3	0.8
	3	0.9	9	1.8	6	1.1	35	0.2	33	0.6	0	0.0
	4	1.2	104	21.2	2	0.4	0	0.0	677	13.2	3	0.8
	0	0.0	15	3.1	0	0.0	0	0.0	0	0.0	0	0.0
	4	1.2	99	20.2	2	0.4	35	0.3	665	13.0	3	0.8
	0	0.0	5	1.0	0	0.0	2	0.1	12	0.2	0	0.0
	36	10.6	70	14.3	9	1.7	1709	7.4	1357	26.5	0	0.0
	36	10.6	52	10.6	9	1.7	1709	7.4	1329	25.9	0	0.0
	0	0.0	18	3.7	0	0.0	0	0.0	28	0.5	0	0.0
	15	3.1	3	0.6	0	0.0	0	0.0	0	0.0	0	0.0
	0	0.0	0	0.0	76	0.4	339	3.0	28	0.5	0	0.0
	0	0.0	54	11.0	0	0.0	401	1.7	8	2.7	7	1.8
LIVER Total Tx (all combinations included) Liver Tx (men) Paediatric (<18 years) Split Tx Domino Tx Tx from living donors Tx from DCD	75	22.1	92	16.7	10	1.9	1	0.0	1428	27.8	2	1.0
	31	9.1	55	10.0	4	0.8	1	0.0	940	18.3	1	0.5
	2	0.6	9	1.6	3	0.6	0	0.0	48	0.9	3	0.8
	0	0.0	5	0.9	0	0.0	0	0.0	33	0.6	0	0.0
HEART Total Tx (all combinations included) Heart Tx (men) Paediatric (<18 years) Tx from DCD	0	0.0	30	5.5	0	0.0	0	0.0	167	3.3	2	1.0
	0	0.0	25	4.5	4	0.8	2	0.0	117	2.3	2	1.0
	0	0.0	1	0.2	0	0.0	0	0.0	12	0.2	0	0.0
	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
HEART-LUNG Total Tx Paediatric (<18 years)	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0
	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0
	0	0.0	15	3.1	0	0.0	0	0.0	136	2.7	0	0.0
	0	0.0	14	2.5	0	0.0	2	0.7	88	1.7	0	0.0
LUNG Total Tx (all combinations included) Lung Tx (men) Paediatric (<18 years) Single Tx Double Tx (heart-lung Tx included) Tx from DCD (double + single)	0	0.0	31	5.6	0	0.0	0	0.0	5	0.1	0	0.0
	0	0.0	3	0.5	0	0.0	0	0.0	5	0.1	0	0.0
	1	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	15	3.1	31	5.6	0	0.0	2	0.7	131	2.6	0	0.0
PANCREAS Total Tx (all combinations included) Pancreas Tx (men) Paediatric (<18 years) Pancreas Tx alone Kidney – Pancreas Tx Tx from DCD	0	0.0	4	0.7	0	0.0	0	0.0	31	0.6	0	0.0
	0	0.0	1	0.2	0	0.0	0	0.0	16	0.3	0	0.0
	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	5	1.0	3	0.5	0	0.0	0	0.0	16	0.3	15	0.3
SMALL BOWEL Total Tx (all combinations included) Small bowel Tx (men) Paediatric (<18 years) Small bowel Tx alone Tx from DCD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0
	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0
RECIPIENTS Total number of patients transplanted Male recipients Paediatric (<18 years) Patients transplanted from living donors	115	33.8	258	52.7	21	4.0	2110	9.2	3793	73.9	25	11.9
	62	18.2	223	40.5	8	1.5	378	3.4	2417	47.1	15	7.1
	5	1.5	17	3.1	9	1.7	37	0.2	97	1.9	0	0.0
	109	32.1	70	14.3	19	3.6	2110	9.2	2468	48.1	12	5.7

TRANSPLANTATION ACTIVITY

OTHER COUNTRIES

COUNTRIES	Saudi Arabia 35.8	Serbia 8.7	Switzerland 8.8	Syrian Arab Rep. 19.4	Thailand 70.1	Tunisia 12.0	Türkiye 85.6	United Arab Emirates 10.1	United Kingdom 68.5	United States of America 334.8
Population (million inhabitants): UNFPA	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number
PMP	PMP	PMP	PMP	PMP	PMP	PMP	PMP	PMP	PMP	PMP
KIDNEY	1160	18	342	329	722	71	3621	152	3192	26310
Total Tx (all combinations included)	32.4	2.1	38.9	17.0	10.3	5.9	42.3	15.0	46.6	78.6
Kidney Tx (men)			232		427		2370		1975	16033
Paediatric (<18 years)			10		21		256		123	705
- Tx from deceased donors	138	2	231	27	547	32	281	34	2338	20446
- Tx from DCD	0	0	91	0	0	0	0	0	1063	6130
- Single Tx	138	0	229	0	529	32	277	80	2310	20138
- Double Tx	0	0	2	0	9	0	4	0	28	308
Tx from living donors	1022	16	111	329	175	39	3340	72	854	5864
- Tx from related living donors	931	16	103	108	175	39	2780	72	445	4315
- Tx from unrelated living donors	91	0	8	221	0	0	560	0	409	1549
Paired exchange or cross-over	2.5	0.0	0.7	11.4	0.0	0.0	229	0.0	158	1113
Non-directed altruistic or anonymous			2				76		175	421
Directed altruistic			0				175		2.6	1.3
LIVER	440	0	142	0	147	8	1610	57	922	9528
Total Tx (all combinations included)	12.3	0.0	16.1	0.0	2.1	0.7	18.8	5.6	13.5	28.5
Liver Tx (men)			100		90	3	988	40	577	5896
Paediatric (<18 years)			8		44	1	293	2	114	526
Split Tx	3	0.1	7		0	0	10	0	74	169
Domino Tx	0	0.0	0		0	0	0	0	5	6
Tx from living donors	374	0	5	10	0	1	1462	2	27	597
Tx from DCD	0	0.0	44		0	0	0	0	245	1014
HEART	41	0	35	0	31	12	26	0	202	4162
Total Tx (all combinations included)	1.1	0.0	4.0	0.0	0.4	1.0	0.3	0.0	2.9	12.4
Heart Tx (men)	30	0	27		24	6	16		137	2956
Paediatric (<18 years)	13	0.0	0		0	1	6		29	494
Tx from DCD	0	0.0	0		0	0	0		57	345
HEART-LUNG	2	0	0	0	0	0	0	0	2	51
Total Tx	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Paediatric (<18 years)	0	0.0							1	3
LUNG	38	0	51	0	0	0	11	6	95	2743
Total Tx (all combinations included)	1.1	0.0	5.8	0.0	0.0	0.0	0.1	0.6	1.4	8.2
Lung Tx (men)	28		30				5	5	72	1701
Paediatric (<18 years)	4		0				1	0	2	21
Single Tx	0		0				0	0	8	547
Double Tx (heart-lung Tx included)	38		51				0	6	87	2196
Tx from DCD (double + single)	0		18				0	0	30	202
PANCREAS	14	0	9	0	4	0	0	4	146	918
Total Tx (all combinations included)	0.4	0.0	1.0	0.0	0.1	0.0	0.0	0.4	2.1	2.7
Pancreas Tx (men)	9		5		1		0	3	79	540
Paediatric (<18 years)	0		0		0		0	0	3	14
Pancreas Tx alone	3		1		0		0	1	8	108
Kidney – Pancreas Tx	10		8		3		0	3	120	810
Tx from DCD	0		1		0		0	0	45	23
SMALL BOWEL	5	0	0	0	0	0	2		24	82
Total Tx (all combinations included)	0.1	0.0	0.0	0.0	0.0	0.0	0.0		0.4	0.2
Small bowel Tx (men)	4		0				1		15	43
Paediatric (<18 years)	2		0				1		22	43
Small bowel Tx alone	4		0				0		6	43
Tx from DCD	0						0		0	0
RECIPIENTS	1684	19	570	329	894	91	5268	210	4453	41292
Total number of patients transplanted	47.0	2.2	64.8	17.0	12.8	7.6	61.5	20.8	65.0	123.3
Male recipients			388		534		3379		2777	25599
Paediatric (<18 years)			18	27	65	40	556	74	277	1717
Patients transplanted from living donors	39.0	1.8	13.2	329	217	3.3	4802	7.3	881	6457
										19.3

TRANSPLANTATION ACTIVITY

LATIN AMERICAN COUNTRIES

COUNTRIES	Argentina	Bolivia	Brazil	Chile	Colombia	Costa Rica	Cuba	Dominican Republic	Ecuador	
Population (million inhabitants): UNFPA	46.0	12.0	215.4	19.3	51.5	5.2	11.3	11.1	18.1	
TRANSPLANTATION										
KIDNEY	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP
Total Tx (all combinations included)	1434	31.2	5029	23.3	326	16.9	11	1.0	61	5.5
Kidney Tx (men)	836	18.2	3061	14.2	326	16.9	8	0.7	51	4.6
Paediatric (<18 years)	96	2.1	274	1.3	26	1.3	1	0.1	5	0.5
Tx from deceased donors	1175	25.5	4611	21.4	253	13.1	5	0.4	19	1.7
- Tx from DCD	11	0.2	0	0.0	0	0.0	0	0.0	0	0.0
- Single Tx	1166	25.3	4600	21.4	252	13.1	5	0.4	149	8.2
- Double Tx	9	0.2	11	0.1	1	0.1	0	0.0	0	0.0
Tx from living donors	259	5.6	418	1.9	73	3.8	6	0.5	2	0.1
- Tx from related living donors	241	5.2	382	1.8	73	3.8	6	0.5	2	0.1
- Tx from unrelated living donors	18	0.4	36	0.2	0	0.0	0	0.0	0	0.0
Paired exchange or cross-over										
Non-directed altruistic or anonymous										
Directed altruistic										
LIVER	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP
Total Tx (all combinations included)	443	9.6	2049	9.5	156	8.1	1	0.1	1	0.1
Liver Tx (men)	236	5.1	1351	6.3	119	2.3	0	0.0	1	0.1
Paediatric (<18 years)	104	2.3	141	0.7	24	1.2	1	0.1	0	0.0
Split Tx	20	0.4	20	0.1	6	0.3	0	0.0	0	0.0
Domino Tx	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tx from living donors	59	1.3	61	0.3	23	1.2	1	0.1	0	0.0
Tx from DCD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
HEART	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP
Total Tx (all combinations included)	110	2.4	362	1.7	40	2.1	0	0.0	0	0.0
Heart Tx (men)	81	1.8	256	1.2	30	1.6	0	0.0	13	0.7
Paediatric (<18 years)	11	0.2	36	0.2	9	0.5	2	0.4	11	0.6
Tx from DCD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
HEART-LUNG	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP
Total Tx	1	0.0					0	0.0	0	0.0
Paediatric (<18 years)										
LUNG	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP
Total Tx (all combinations included)	33	0.7	106	0.5	30	1.6	0	0.0	0	0.0
Lung Tx (men)	16	0.3	49	0.2	20	1.0	0	0.0	0	0.0
Paediatric (<18 years)	1	0.0	3	0.0	2	0.1	0	0.0	0	0.0
Single Tx	14	0.3	23	0.1	5	0.3	0	0.0	0	0.0
Double Tx (heart-lung Tx included)	19	0.4	83	0.4	25	1.3	0	0.0	0	0.0
Tx from DCD (double + single)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
PANCREAS	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP
Total Tx (all combinations included)	36	0.8	133	0.6	9	0.5	0	0.0	0	0.0
Pancreas Tx (men)	20	0.4	73	0.3	6	0.3	0	0.0	0	0.0
Paediatric (<18 years)			0	0.0	0	0.0	0	0.0	0	0.0
Pancreas Tx alone	2	0.0	21	0.1	1	0.1	0	0.0	0	0.0
Kidney – Pancreas Tx	34	0.7	112	0.5	8	0.4	13	0.3	0	0.0
Tx from DCD			0	0.0	0	0.0	0	0.0		
SMALL BOWEL	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP
Total Tx (all combinations included)	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Small bowel Tx (men)	0	0.0								
Paediatric (<18 years)	1	0.0								
Small bowel Tx alone	1	0.0								
Tx from DCD										
RECIPIENTS	Number	PMP	Number	PMP	Number	PMP	Number	PMP	Number	PMP
Total number of patients transplanted	2004	43.6	7679	35.6	561	29.1	11	1.0	62	5.6
Male recipients	1158	25.2	4790	22.2	314	16.3	8	0.7	52	4.7
Paediatric (<18 years)	211	4.6	443	2.1	62	3.2	1	0.1	5	0.5
Patients transplanted from living donors	318	6.9	479	2.2	96	5.0	6	0.5	42	3.8

WAITING LIST

EUROPEAN UNION COUNTRIES

COUNTRIES	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland
Population (million inhabitants): UNFPA	9.1	11.7	6.8	4.1	1.2	10.7	5.8	1.3	5.6
KIDNEY									
N. TX CENTRES									
Patients included on the WL for the first time in the course of 2022	371	7	3	4	1	7	3	1	1
Total number of patients ever active on the WL during 2022	1006	660	126	153	25	566	298	40	279
Patients awaiting for a transplant (only active candidates) on 31/12/2022	635	1189	1029	215	68	660	820	93	743
Patients who died while on the WL during 2022	39	43	85	17	4	391	392	40	279
Patients on dialysis on 31/12/2022			810	2500		42	14	3	8
						469			
LIVER									
N° TX CENTRES									
Patients included on the WL for the first time in the course of 2022	204	6	2	2		2	1	1	1
Total number of patients ever active on the WL during 2022	295	308	22	153		199	73	13	74
Patients awaiting for a transplant (only active candidates) on 31/12/2022	91	130	66	165		103	85	21	78
Patients who died while on the WL during 2022	23	39	28	150		86	30	5	11
			11	28		17	1	2	2
HEART									
N° TX CENTRES									
Patients included on the WL for the first time in the course of 2022	62	7	1	2		2	2	0	1
Total number of patients ever active on the WL during 2022	107	56	8	44		92	31		19
Patients awaiting for a transplant (only active candidates) on 31/12/2022	45	83	50	31		97	49		72
Patients who died while on the WL during 2022	3	7	22	23		51	17		29
			7	7		9	0		2
LUNG									
N° TX CENTRES									
Patients included on the WL for the first time in the course of 2022	105	5	2	1		1	1	1	1
Total number of patients ever active on the WL during 2022	152	117	3	13		86	39	0	20
Patients awaiting for a transplant (only active candidates) on 31/12/2022	47	111	23	11		62	53	5	59
Patients who died while on the WL during 2022	4	9	9	8		45	22	1	31
			3	1		10	4	1	1
PANCREAS									
N° TX CENTRES									
Patients included on the WL for the first time in the course of 2022	19	7	0	1		1	1	1	1
Total number of patients ever active on the WL during 2022	30	20	0	12		40	2	0	16
Patients awaiting for a transplant (only active candidates) on 31/12/2022	11	34	8	12		60	9	10	30
Patients who died while on the WL during 2022	4	1	1	8		31	3	5	6
			0	2		3	2	0	0
SMALL BOWEL									
N° TX CENTRES									
Patients included on the WL for the first time in the course of 2022	1	6	0	1		1	0	0	1
Total number of patients ever active on the WL during 2022	1		1	1		1			
Patients awaiting for a transplant (only active candidates) on 31/12/2022			2	1		1			
Patients who died while on the WL during 2022			2	0		0			
			0	0		0			

WAITING LIST

EUROPEAN UNION COUNTRIES

COUNTRIES	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg
Population (million inhabitants): UNFPA	65.6	83.9	10.3	9.6	5.0	60.3	1.8	2.7	0.6
KIDNEY									
N° TX CENTRES	48	38	5	4	1	39	1	2	0
Patients included on the WL for the first time in the course of 2022	5260	2406	215	303	187	2220	35	79	48
Total number of patients ever active on the WL during 2022	23572	8999	1453	1091	512	8275	75	207	67
Patients awaiting for a transplant (only active candidates) on 31/12/2022	9816	6593	1199	724	364	5998	38	114	
Patients who died while on the WL during 2022	690	448	27	40	10	178	2	11	1
Patients on dialysis on 31/12/2022	51911		12536	6057	2168		750		
LIVER									
N° TX CENTRES	25	21	2	1	1	22	1	2	0
Patients included on the WL for the first time in the course of 2022	1741	1296	62	84	49	1616	2	51	2
Total number of patients ever active on the WL during 2022	3219	2144	145	153	89	2620	8	147	6
Patients awaiting for a transplant (only active candidates) on 31/12/2022	588	848	65	67	20	986	3	100	
Patients who died while on the WL during 2022	243	274	10	14	3	133	2	15	0
HEART									
N° TX CENTRES	25	20	1	2	1	16	1	2	0
Patients included on the WL for the first time in the course of 2022	453	507	20	47	10	389	7	20	2
Total number of patients ever active on the WL during 2022	893	1234	41	108	14	1020	17	75	3
Patients awaiting for a transplant (only active candidates) on 31/12/2022	201	727	27	44	2	683	15	58	3
Patients who died while on the WL during 2022	61	90	0	9	1	44	0	8	0
LUNG									
N° TX CENTRES	12	13	1	1	1	11	0	1	0
Patients included on the WL for the first time in the course of 2022	339	341	10	7	30	208	1	6	0
Total number of patients ever active on the WL during 2022	516	632	19	21	59	517	1	12	7
Patients awaiting for a transplant (only active candidates) on 31/12/2022	112	291	6	7	28	287	1	8	6
Patients who died while on the WL during 2022	16	40	2	1	11	50	0	3	0
PANCREAS									
N° TX CENTRES	10	27		2	1	12	1	1	0
Patients included on the WL for the first time in the course of 2022	117	100		10	8	44	0	2	0
Total number of patients ever active on the WL during 2022	310	381		44	33	274	0	5	2
Patients awaiting for a transplant (only active candidates) on 31/12/2022	102	281		32	14	205	0	2	2
Patients who died while on the WL during 2022	4	30		4	2	6	0	0	0
SMALL BOWEL									
N° TX CENTRES	4	9		0	0	2	0	0	0
Patients included on the WL for the first time in the course of 2022	2	2		0	0	0	0	0	0
Total number of patients ever active on the WL during 2022	6	10		0	0	7	0	0	0
Patients awaiting for a transplant (only active candidates) on 31/12/2022	2	8		0	0	6	0	0	0
Patients who died while on the WL during 2022	0	3		0	0	0	0	0	0

WAITING LIST

EUROPEAN UNION COUNTRIES

COUNTRIES	Malta	Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden
Population (million inhabitants): UNFPA	0.4	17.2	37.7	10.1	19.0	5.5	2.1	46.7	10.2
KIDNEY									
N° TX CENTRES	1		18	8	4	4	1	41	4
Patients included on the WL for the first time in the course of 2022	17	1519	1158	602	586	159	38		453
Total number of patients ever active on the WL during 2022	96	2417	2392	2546	4750	443	76	7445	1129
Patients awaiting for a transplant (only active candidates) on 31/12/2022	96	898	1170	1876	4324	268	38	4041	361
Patients who died while on the WL during 2022	6	104	98	25	101	21	4		16
Patients on dialysis on 31/12/2022	335		20000	13336	700	4000		25087	4120
LIVER									
N° TX CENTRES	0		9	3	5	1	1	26	2
Patients included on the WL for the first time in the course of 2022		225	435	171	64	46	22	1294	176
Total number of patients ever active on the WL during 2022		296	606	258	467	72	33	1656	257
Patients awaiting for a transplant (only active candidates) on 31/12/2022		71	152	107	410	17	11	321	63
Patients who died while on the WL during 2022		30	38	11	33	12	6	40	10
HEART									
N° TX CENTRES	0		7	4	2	1	1	19	2
Patients included on the WL for the first time in the course of 2022		68	328	68	16	26	38	389	77
Total number of patients ever active on the WL during 2022		207	787	98	44	57	74	530	93
Patients awaiting for a transplant (only active candidates) on 31/12/2022		139	392	34	25	29	36	156	27
Patients who died while on the WL during 2022		12	66	7	3	6	2	8	1
LUNG									
N° TX CENTRES	0		6	1	1	0	1	8	2
Patients included on the WL for the first time in the course of 2022		118	186	45	1	0	13	437	65
Total number of patients ever active on the WL during 2022		283	305	121	6	0	15	646	100
Patients awaiting for a transplant (only active candidates) on 31/12/2022		165	144	73	3	0	2	193	38
Patients who died while on the WL during 2022		16	48	20	1	0		8	7
PANCREAS									
N° TX CENTRES	0		4	2	1	1	1	13	4
Patients included on the WL for the first time in the course of 2022		37	41	34	0	0	1	115	11
Total number of patients ever active on the WL during 2022		82	98	62	0	0	2	194	41
Patients awaiting for a transplant (only active candidates) on 31/12/2022		45	56	32	0	0	1	76	10
Patients who died while on the WL during 2022		2	6	4	0	0		2	1
SMALL BOWEL									
N° TX CENTRES	0		1		0	0	1	3	1
Patients included on the WL for the first time in the course of 2022		1	0		0	0		5	1
Total number of patients ever active on the WL during 2022		2	0		0	0		12	4
Patients awaiting for a transplant (only active candidates) on 31/12/2022		1	0		0	0		3	3
Patients who died while on the WL during 2022			0			0		0	0

WAITING LIST

OTHER COUNTRIES

COUNTRIES	Afghanistan	Albania	Armenia	Australia	Bangladesh	Barbados	Belarus	Bosnia and Herzegovina	Canada	China	Ethiopia
Population (million inhabitants): UNFPA	40.8	2.9	3.0	26.1	167.9	0.3	9.4	3.2	38.4	1456.8	120.8
KIDNEY											
N° TX CENTRES	4	3	1	26	10	1	7	2	25	148	1
Patients included on the WL for the first time in the course of 2022		22		1003			458	32		35576	
Total number of patients ever active on the WL during 2022		42		2446	830		743			113084	
Patients awaiting for a transplant (only active candidates) on 31/12/2022		14		1396	750		361	222	1525	87884	
Patients who died while on the WL during 2022		0		8	146		34	12	113	645	
Patients on dialysis on 31/12/2022		1423		15207	18500		2815	1000		960000	
LIVER											
N° TX CENTRES	0	0	2	8	3	0	1	1	10	114	0
Patients included on the WL for the first time in the course of 2022				230			97	6		11838	
Total number of patients ever active on the WL during 2022				380			260			18486	
Patients awaiting for a transplant (only active candidates) on 31/12/2022				115			159	26	354	7415	
Patients who died while on the WL during 2022				5			5	5	104	944	
HEART											
N° TX CENTRES	0	0	0	5	0	0	1	2	13	72	0
Patients included on the WL for the first time in the course of 2022				121			23	11		1466	
Total number of patients ever active on the WL during 2022				196			125	25		2352	
Patients awaiting for a transplant (only active candidates) on 31/12/2022				73			77	25	86	1134	
Patients who died while on the WL during 2022				2			11		8	167	
LUNG											
N° TX CENTRES	0	0	0	4	0	0	2	0	7	54	0
Patients included on the WL for the first time in the course of 2022				162			7			1115	
Total number of patients ever active on the WL during 2022				265			37			1320	
Patients awaiting for a transplant (only active candidates) on 31/12/2022				99			26		144	273	
Patients who died while on the WL during 2022				18			5		37	99	
PANCREAS											
N° TX CENTRES	0	0	0	3	0	0	1	0	8	47	0
Patients included on the WL for the first time in the course of 2022				54			5				
Total number of patients ever active on the WL during 2022				127			14				
Patients awaiting for a transplant (only active candidates) on 31/12/2022				63			13		55		
Patients who died while on the WL during 2022				1			1		2		
SMALL BOWEL											
N° TX CENTRES	0	0	0	1	0	0	1	0	3	43	0
Patients included on the WL for the first time in the course of 2022				0			0				
Total number of patients ever active on the WL during 2022				5			0				
Patients awaiting for a transplant (only active candidates) on 31/12/2022				3			0		3		
Patients who died while on the WL during 2022				0			0		0		

WAITING LIST

OTHER COUNTRIES

COUNTRIES	Georgia	Iceland	India	Iran	Israel	Japan	Kazakhstan	Kenya	Kuwait	Libyan Arab Jamahiriya
Population (million inhabitants): UNFPA	4.0	0.3	1406.6	86.0	8.9	125.6	19.2	56.2	4.4	7.0
KIDNEY										
N° TX CENTRES	4	1	568	30	6	125	6	7	1	1
Patients included on the WL for the first time in the course of 2022			11916	1724	391	1518	718		85	
Total number of patients ever active on the WL during 2022			44174	1355	1304	15258	3763		280	
Patients awaiting for a transplant (only active candidates) on 31/12/2022			27734	4	901	14080	3340		215	
Patients who died while on the WL during 2022			1477	6	22	204	247		8	
Patients on dialysis on 31/12/2022			57776		6915	349700	12546		2300	
LIVER										
N° TX CENTRES	3	0	234	13	3	23	4		1	0
Patients included on the WL for the first time in the course of 2022			5151	944	168	249	77		14	
Total number of patients ever active on the WL during 2022			13366	765	278	582	238		20	
Patients awaiting for a transplant (only active candidates) on 31/12/2022			5674		112	261	139		9	
Patients who died while on the WL during 2022			983	11	14	100	56		2	
HEART										
N° TX CENTRES	0	0	162	12	2	11	1		1	0
Patients included on the WL for the first time in the course of 2022			563	71	73	102	26			
Total number of patients ever active on the WL during 2022			1947	64	166	1026	179			
Patients awaiting for a transplant (only active candidates) on 31/12/2022			503		107	861	163			
Patients who died while on the WL during 2022			84	6	14	37	12			
LUNG										
N° TX CENTRES	0	0	90	3	2	11	1			0
Patients included on the WL for the first time in the course of 2022			355	32	146	222	9			
Total number of patients ever active on the WL during 2022			1015	28	323	699	27			
Patients awaiting for a transplant (only active candidates) on 31/12/2022			134		204	422	19			
Patients who died while on the WL during 2022			30	3	27	51	5			
PANCREAS										
N° TX CENTRES	0	0	56	5	2	21	0		1	0
Patients included on the WL for the first time in the course of 2022			84	30	8	30			4	
Total number of patients ever active on the WL during 2022			304	25	17	227			12	
Patients awaiting for a transplant (only active candidates) on 31/12/2022			153		11	124			12	
Patients who died while on the WL during 2022			7	3		2			0	
SMALL BOWEL										
N° TX CENTRES	0	0	27	1	1	13	0			0
Patients included on the WL for the first time in the course of 2022			13	9		6				
Total number of patients ever active on the WL during 2022			32	7		16				
Patients awaiting for a transplant (only active candidates) on 31/12/2022			13			10				
Patients who died while on the WL during 2022			2			1				

WAITING LIST

OTHER COUNTRIES

COUNTRIES	Mongolia	New Zealand	Nigeria	Norway	Oman	Pakistan	Philippines	Qatar	Republic of Korea	Republic of Moldova	Republic of North Macedonia
Population (million inhabitants): UNFPA	3.4	4.9	216.7	5.5	5.3	229.5	112.5	3.0	51.3	4.0	2.1
KIDNEY											
N° TX CENTRES	1	4	9	1	2	32	36	1	87	1	1
Patients included on the WL for the first time in the course of 2022	205		99	203			111	86	4551	12	47
Total number of patients ever active on the WL during 2022	556		126	777			112	225	34	34	137
Patients awaiting for a transplant (only active candidates) on 31/12/2022	505		91	317			76	122	31773	31	112
Patients who died while on the WL during 2022	11		39	16			9	3	1506	0	1
Patients on dialysis on 31/12/2022	2942	3656	600		2275	33000	18500			1100	1350
LIVER											
N° TX CENTRES	2	2	0	1	1	8	3	1	76	1	1
Patients included on the WL for the first time in the course of 2022	283			112			7	7	2048	13	15
Total number of patients ever active on the WL during 2022	406			153			12	19	87	87	15
Patients awaiting for a transplant (only active candidates) on 31/12/2022	277			42			5	7	6609	58	14
Patients who died while on the WL during 2022	54			3			4	0	1071	20	
HEART											
N° TX CENTRES	1		0	1	0	0	1	0	63	0	1
Patients included on the WL for the first time in the course of 2022				34					400		4
Total number of patients ever active on the WL during 2022				53							26
Patients awaiting for a transplant (only active candidates) on 31/12/2022				16					1034		24
Patients who died while on the WL during 2022				1					129		
LUNG											
N° TX CENTRES	0	1	0	1	0	0	1	1	51	0	
Patients included on the WL for the first time in the course of 2022				25				4	284		
Total number of patients ever active on the WL during 2022				67				3			
Patients awaiting for a transplant (only active candidates) on 31/12/2022				24				3	505		
Patients who died while on the WL during 2022				4				1	125		
PANCREAS											
N° TX CENTRES	1	1	0	1	0	0	0	0	55	0	
Patients included on the WL for the first time in the course of 2022				5					144		
Total number of patients ever active on the WL during 2022				16							
Patients awaiting for a transplant (only active candidates) on 31/12/2022				9					1733		
Patients who died while on the WL during 2022				0					81		
SMALL BOWEL											
N° TX CENTRES	0		0		0	0	0	0	21	0	
Patients included on the WL for the first time in the course of 2022							1		1		
Total number of patients ever active on the WL during 2022							1				
Patients awaiting for a transplant (only active candidates) on 31/12/2022							1		22		
Patients who died while on the WL during 2022							0		4		

WAITING LIST

OTHER COUNTRIES

COUNTRIES	Saudi Arabia	Serbia	Switzerland	Syrian Arab Republic	Thailand	Tunisia	Türkiye	United Arab Emirates	United Kingdom	United States of America
Population (million inhabitants): UNFPA	35.8	8.7	8.8	19.4	70.1	12.0	85.6	10.1	68.5	334.8
KIDNEY										
N° TX CENTRES	14	4	6	6	46	6	75	7	24	231
Patients included on the WL for the first time in the course of 2022	3150	70	389		1346	107	6480	128	3489	34400
Total number of patients ever active on the WL during 2022	7100	680			6811		28591	242	9077	81915
Patients awaiting for a transplant (only active candidates) on 31/12/2022	4500	645	462		5866	1651	22604	225	5422	48812
Patients who died while on the WL during 2022		31	31		17		1890	2	286	4299
Patients on dialysis on 31/12/2022	22395	364			200000	13000	65467	4000	3105	807920
LIVER										
N° TX CENTRES	4	2	3	0	10	3	54	1	7	142
Patients included on the WL for the first time in the course of 2022	260	11	240		259		2372		1056	12330
Total number of patients ever active on the WL during 2022	550	47			537		4811		1836	22220
Patients awaiting for a transplant (only active candidates) on 31/12/2022	335	43	140		344		2084		692	8264
Patients who died while on the WL during 2022			42		37		670		58	1037
HEART										
N° TX CENTRES	3	1	3	0	6	3	14	1	7	147
Patients included on the WL for the first time in the course of 2022	102	6	33		33	22	342		259	4665
Total number of patients ever active on the WL during 2022	123	36			65	35	1649		644	7841
Patients awaiting for a transplant (only active candidates) on 31/12/2022	34	31	47		24	24	1302		302	2646
Patients who died while on the WL during 2022	13		6		7	8	336		23	210
LUNG										
N° TX CENTRES	1		2	0	5	1	3	1	6	72
Patients included on the WL for the first time in the course of 2022	75	0	56		2		93		188	2952
Total number of patients ever active on the WL during 2022	80	0			6		250		474	3992
Patients awaiting for a transplant (only active candidates) on 31/12/2022	40	0	55		5		177		304	788
Patients who died while on the WL during 2022		0	6		1		61		37	143
PANCREAS										
N° TX CENTRES	2		2	0	4		8	1	8	123
Patients included on the WL for the first time in the course of 2022	20	0	16		0		8		203	1486
Total number of patients ever active on the WL during 2022	35	0			2		291		480	2489
Patients awaiting for a transplant (only active candidates) on 31/12/2022	25	0	13		1		270		267	1101
Patients who died while on the WL during 2022		0	0		0		29		21	99
SMALL BOWEL										
N° TX CENTRES	1		2	0	2		3		4	19
Patients included on the WL for the first time in the course of 2022	7	0	0				3		30	128
Total number of patients ever active on the WL during 2022	10	0					6		46	262
Patients awaiting for a transplant (only active candidates) on 31/12/2022	7	0	0				1		17	142
Patients who died while on the WL during 2022		0	0				3		1	16

WAITING LIST

LATIN AMERICAN COUNTRIES

COUNTRIES	Argentina	Bolivia	Brazil	Chile	Colombia	Costa Rica	Cuba	Dominican Republic	Ecuador
Population (million inhabitants): UNFPA	46.0	12.0	215.4	19.3	51.5	5.2	11.3	11.1	18.1
KIDNEY									
N. TX CENTRES	58	8	172	11	28	7	8	5	8
Patients included on the WL for the first time in the course of 2022	2477	25	13668	591	1647	86	80	85	204
Total number of patients ever active on the WL during 2022	7548	3	41416	1590	4985	494	250	240	428
Patients awaiting for a transplant (only active candidates) on 31/12/2022	5478	3	30016	913	3381	341	182	296	248
Patients who died while on the WL during 2022	332	1	1535	13	66	35	68	1	31
Patients on dialysis on 31/12/2022	29404	5400	113451	24907	43327		3000	4358	18119
LIVER									
Nº TX CENTRES	35	1	92	10	11	6	2	1	3
Patients included on the WL for the first time in the course of 2022	856		3773	270	382	15	5	11	55
Total number of patients ever active on the WL during 2022	2285		4999	425	530	85	18	40	63
Patients awaiting for a transplant (only active candidates) on 31/12/2022	788		1331	154	192	32	12	35	26
Patients who died while on the WL during 2022	206		670	30	24	16	6	6	9
HEART									
Nº TX CENTRES	27	0	58	7	11	1	1	2	3
Patients included on the WL for the first time in the course of 2022	184		592	83	112	4	2	0	15
Total number of patients ever active on the WL during 2022	321		911	101	154	5	5	0	29
Patients awaiting for a transplant (only active candidates) on 31/12/2022	137		348	15	51	1	2	0	1
Patients who died while on the WL during 2022	48		128	0	7	0	3	0	0
LUNG									
Nº TX CENTRES	8	0	13	2	6	1	0	0	0
Patients included on the WL for the first time in the course of 2022	101		130	124	56	4	0	0	0
Total number of patients ever active on the WL during 2022	387		346	169	97	10	0	0	0
Patients awaiting for a transplant (only active candidates) on 31/12/2022	286		172	46	55	6	0	0	0
Patients who died while on the WL during 2022	51		36	17	13	0	0	0	0
PANCREAS									
Nº TX CENTRES	17	0	31	2	7	1	0	1	0
Patients included on the WL for the first time in the course of 2022	86		262	11	40	0	0	0	0
Total number of patients ever active on the WL during 2022	241		575	36	56	0	0	0	0
Patients awaiting for a transplant (only active candidates) on 31/12/2022	176		346	21	36	0	0	0	0
Patients who died while on the WL during 2022	11		26	0	0	0	0	0	0
SMALL BOWEL									
Nº TX CENTRES	4	0	5	0	4	1	0	0	0
Patients included on the WL for the first time in the course of 2022	3		10	0	0	0	0	0	0
Total number of patients ever active on the WL during 2022	15		14	0	1	0	0	0	0
Patients awaiting for a transplant (only active candidates) on 31/12/2022	11		6	0	1	0	0	0	0
Patients who died while on the WL during 2022	0		0	0	0	0	0	0	0

WAITING LIST

LATIN AMERICAN COUNTRIES

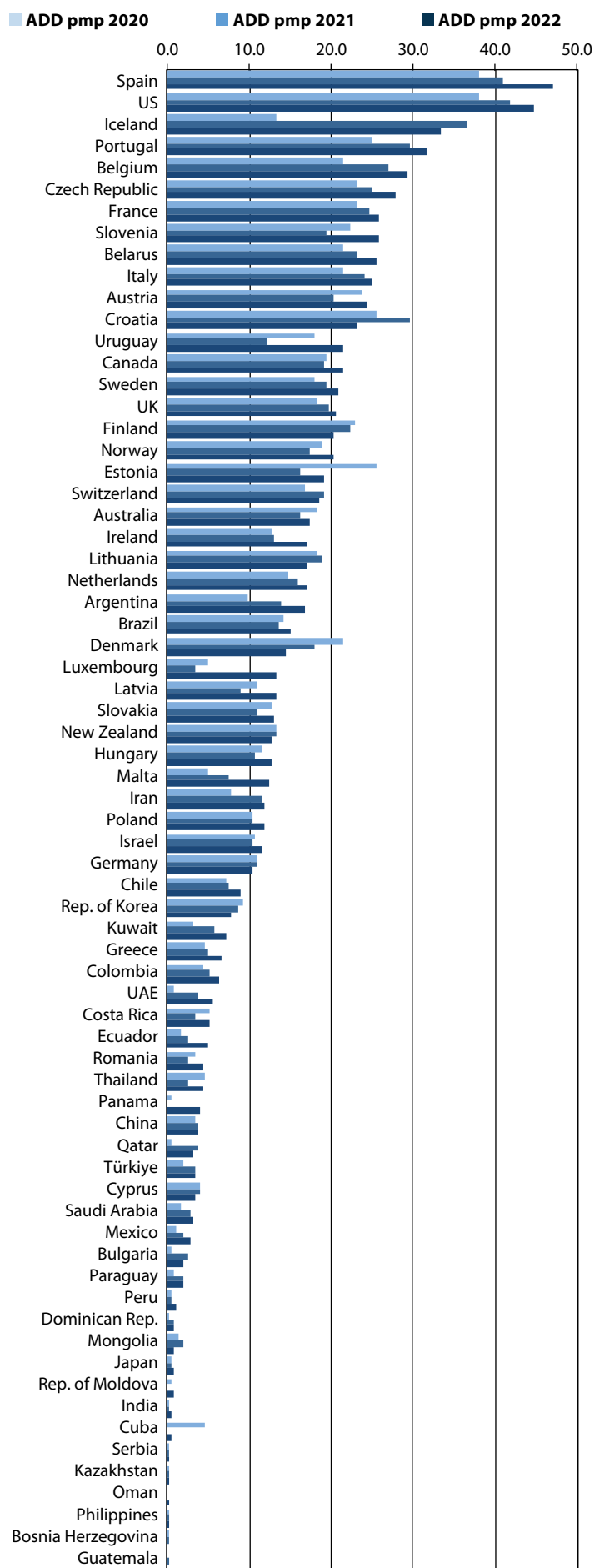
COUNTRIES	El Salvador	Guatemala	Honduras	Mexico	Nicaragua	Panama	Paraguay	Peru	Uruguay	Venezuela
Population (million inhabitants): UNFPA	6.6	18.6	10.2	131.6	6.8	4.4	7.3	33.7	3.5	29.3
KIDNEY										
N° TX CENTRES	0	4	4	277		2	6	5	4	
Patients included on the WL for the first time in the course of 2022				5311		75	35		174	
Total number of patients ever active on the WL during 2022				17299		120	92		606	
Patients awaiting for a transplant (only active candidates) on 31/12/2022				15412		80	65	728	426	
Patients who died while on the WL during 2022				311		5	1		13	
Patients on dialysis on 31/12/2022	6839		4500			2650	1600			
LIVER										
N° TX CENTRES	0	0	0	84		1	1	3	1	
Patients included on the WL for the first time in the course of 2022				361		5	1		42	
Total number of patients ever active on the WL during 2022				238		14	6		75	
Patients awaiting for a transplant (only active candidates) on 31/12/2022				245		2	6	9	41	
Patients who died while on the WL during 2022				695		2	0		11	
HEART										
N° TX CENTRES	0	0	0	60		1	3	1	3	
Patients included on the WL for the first time in the course of 2022				54		1	10		28	
Total number of patients ever active on the WL during 2022				54		1	17		78	
Patients awaiting for a transplant (only active candidates) on 31/12/2022				29		0	5	7	59	
Patients who died while on the WL during 2022				8		0	5		11	
LUNG										
N° TX CENTRES	0	0	0	18		0	0	1	1	
Patients included on the WL for the first time in the course of 2022				14		0	0		10	
Total number of patients ever active on the WL during 2022				0		0	0		28	
Patients awaiting for a transplant (only active candidates) on 31/12/2022				0		0	0	3	22	
Patients who died while on the WL during 2022				1		0	0		2	
PANCREAS										
N° TX CENTRES	0	0	0	27		0	0	1		
Patients included on the WL for the first time in the course of 2022				2		0	0		0	
Total number of patients ever active on the WL during 2022				5		0	0		0	
Patients awaiting for a transplant (only active candidates) on 31/12/2022				2		0	0	0	0	
Patients who died while on the WL during 2022				0		0	0		0	
SMALL BOWEL										
N° TX CENTRES	0	0	0	7		0	0			
Patients included on the WL for the first time in the course of 2022				0		0	0		0	
Total number of patients ever active on the WL during 2022				0		0	0		0	
Patients awaiting for a transplant (only active candidates) on 31/12/2022				0		0	0		0	
Patients who died while on the WL during 2022				0		0	0		0	

International Data on Organ Donation and Transplantation Activity. Year 2022 vs 2021 vs 2020



2022 VS 2021 VS 2020. GLOBAL DATA ON ORGAN DONATION AND TRANSPLANTATION

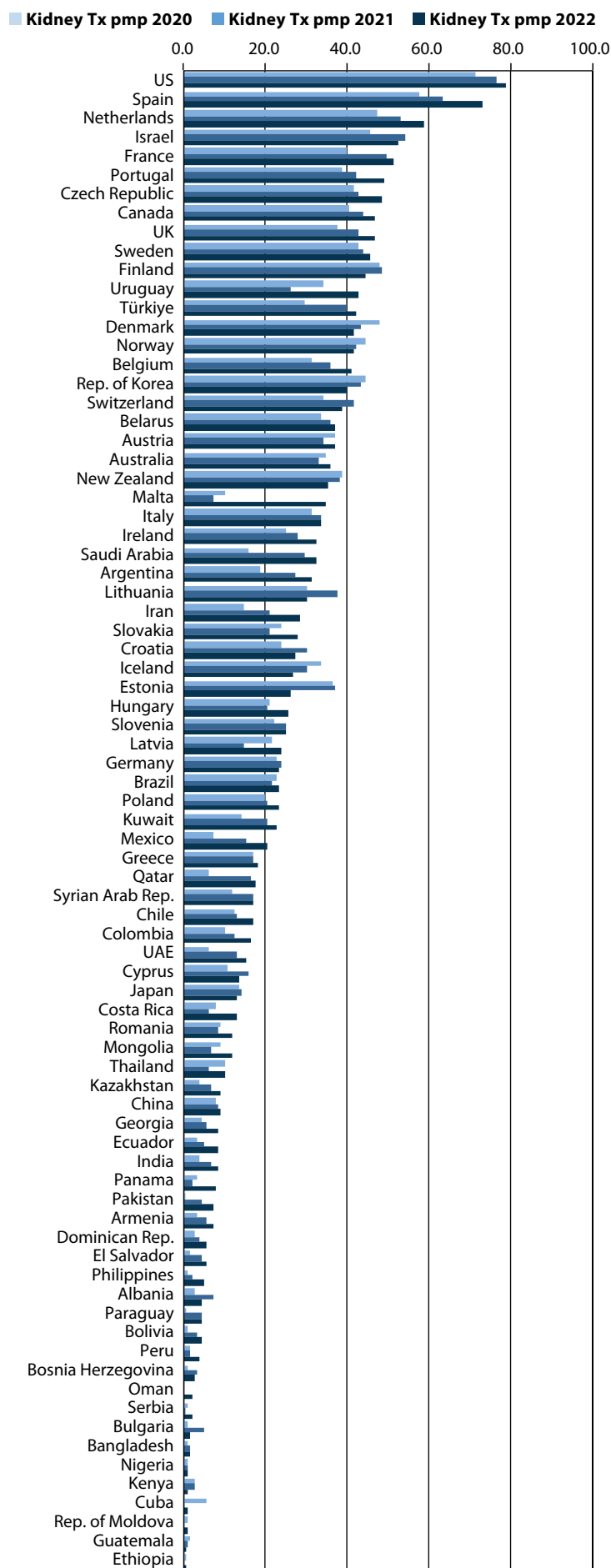
Actual Deceased Donors (ADD)



COUNTRY	2020		2021		2022	
	N	PMP	N	PMP	N	PMP
Argentina	444	9.8	630	13.8	767	16.7
Australia	463	18.2	421	16.3	454	17.4
Austria	213	23.7	182	20.2	222	24.4
Belarus	201	21.4	218	23.2	241	25.6
Belgium	249	21.5	312	26.9	342	29.2
Bosnia Herzegovina	1	0.3	1	0.3	0	0.0
Brazil	3027	14.2	2937	13.7	3266	15.2
Bulgaria	4	0.6	17	2.5	14	2.1
Canada	734	19.5	734	19.3	823	21.4
Chile	141	7.4	147	7.7	171	8.9
China	5222	3.6	5272	3.6	5628	3.9
Colombia	222	4.4	268	5.2	332	6.4
Costa Rica	27	5.3	17	3.3	27	5.2
Croatia	104	25.4	121	29.5	95	23.2
Cuba	51	4.5	0	0.0	5	0.4
Cyprus	5	4.2	5	4.2	4	3.3
Czech Republic	249	23.3	268	25.0	298	27.9
Denmark	124	21.4	105	18.1	84	14.5
Dominican Rep.	4	0.4	9	0.8	10	0.9
Ecuador	29	1.6	47	2.6	91	5.0
Estonia	33	25.4	21	16.2	25	19.2
Finland	126	22.9	122	22.2	114	20.4
France	1512	23.2	1614	24.7	1694	25.8
Germany	913	10.9	933	11.1	869	10.4
Greece	48	4.6	52	5.0	69	6.7
Guatemala	0	0.0	1	0.1	0	0.0
Hungary	111	11.4	102	10.6	122	12.7
Iceland	4	13.3	11	36.7	10	33.3
India	351	0.3	552	0.4	941	0.7
Iran	645	7.7	979	11.5	1016	11.8
Ireland	63	12.9	65	13.0	86	17.2
Israel	92	10.6	92	10.5	102	11.5
Italy	1303	21.5	1458	24.1	1509	25.0
Japan	77	0.6	78	0.6	108	0.9
Kazakhstan	2	0.1	4	0.2	4	0.2
Kuwait	14	3.3	25	5.8	32	7.3
Latvia	21	11.1	17	8.9	24	13.3
Lithuania	49	18.1	51	18.9	46	17.0
Luxembourg	3	5.0	2	3.3	8	13.3
Malta	2	5.0	3	7.5	5	12.5
Mexico	152	1.2	260	2.0	398	3.0
Mongolia	5	1.5	7	2.1	3	0.9
Netherlands	255	14.9	273	15.9	293	17.0
New Zealand	64	13.3	66	13.5	63	12.9
Norway	102	18.9	96	17.5	111	20.2
Oman	0	0.0	0	0.0	1	0.2
Panama	3	0.7	0	0.0	18	4.1
Paraguay	6	0.8	15	2.1	15	2.1
Peru	17	0.5	23	0.7	42	1.2
Philippines	6	0.1	3	0.0	20	0.2
Poland	393	10.4	396	10.5	445	11.8
Portugal	253	24.8	302	29.6	318	31.5
Qatar	2	0.7	11	3.8	10	3.3
Rep. of Korea	478	9.3	442	8.6	405	7.9
Rep. of Moldova	2	0.5	0	0.0	3	0.8
Romania	66	3.4	47	2.5	85	4.5
Saudi Arabia	65	1.9	102	2.9	118	3.3
Serbia	3	0.3	3	0.3	2	0.2
Slovakia	70	12.7	60	10.9	71	12.9
Slovenia	47	22.4	41	19.5	54	25.7
Spain	1777	38.0	1905	40.8	2196	47.0
Sweden	181	17.9	197	19.3	213	20.9
Switzerland	146	16.8	166	19.1	164	18.6
Thailand	315	4.5	190	2.7	303	4.3
Türkiye	172	2.0	305	3.6	289	3.4
UAE	9	0.9	39	3.9	55	5.4
UK	1248	18.4	1350	19.8	1413	20.6
Uruguay	63	18.0	43	12.3	75	21.4
US	12588	38.0	13863	41.6	14905	44.5

2022 VS 2021 VS 2020. GLOBAL DATA ON ORGAN DONATION AND TRANSPLANTATION

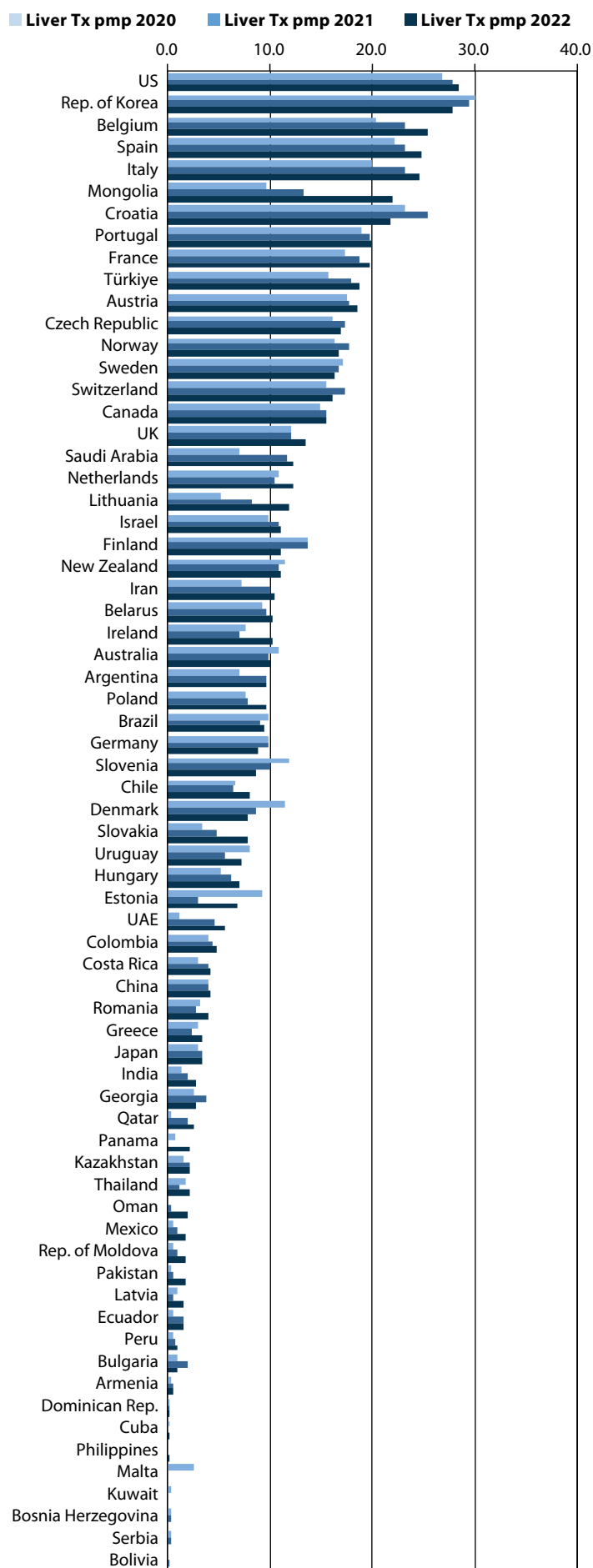
Kidney Transplants



COUNTRY	2020		2021		2022	
	N	PMP	N	PMP	N	PMP
Albania	7	2.4	21	7.2	13	4.5
Argentina	854	18.9	1237	27.1	1434	31.2
Armenia	10	3.3	16	5.3	22	7.3
Australia	885	34.7	858	33.3	941	36.1
Austria	335	37.2	306	34.0	336	36.9
Bangladesh	155	0.9	228	1.4	269	1.6
Belarus	316	33.6	336	35.7	348	37.0
Belgium	363	31.3	417	35.9	478	40.9
Bolivia	10	0.9	35	3.0	50	4.2
Bosnia Herzegovina	4	1.2	10	3.0	8	2.5
Brazil	4830	22.7	4559	21.3	5029	23.3
Bulgaria	8	1.2	33	4.8	12	1.8
Canada	1518	40.3	1673	43.9	1795	46.7
Chile	233	12.2	246	12.8	326	16.9
China	11037	7.6	12039	8.3	12712	8.7
Colombia	526	10.3	623	12.1	841	16.3
Costa Rica	41	8.0	30	5.9	66	12.7
Croatia	98	23.9	124	30.2	112	27.3
Cuba	64	5.7	0	0.0	11	1.0
Cyprus	13	10.8	19	15.8	16	13.3
Czech Republic	443	41.4	456	42.6	520	48.6
Denmark	278	47.9	252	43.4	242	41.7
Dominican Rep.	28	2.6	45	4.1	61	5.5
Ecuador	57	3.2	87	4.9	151	8.3
El Salvador	11	1.7	27	4.2	35	5.3
Estonia	47	36.2	48	36.9	34	26.2
Ethiopia	8	0.1	0	0.0	9	0.1
Finland	263	47.8	268	48.7	250	44.6
France	2595	39.7	3252	49.7	3377	51.5
Georgia	17	4.3	22	5.5	34	8.5
Germany	1909	22.8	1992	23.7	1966	23.4
Greece	175	16.8	175	16.8	187	18.2
Guatemala	29	1.6	17	0.9	9	0.5
Hungary	202	20.8	194	20.2	246	25.6
Iceland	10	33.3	9	30.0	8	26.7
India	5486	4.0	9105	6.5	11705	8.3
Iran	1240	14.8	1777	20.9	2431	28.3
Ireland	123	25.1	139	27.8	163	32.6
Israel	397	45.6	476	54.1	468	52.6
Italy	1907	31.5	2043	33.8	2033	33.7
Japan	1697	13.4	1772	14.1	1656	13.2
Kazakhstan	77	4.1	129	6.8	176	9.2
Kenya	142	2.6	160	2.9	55	1.0
Kuwait	61	14.2	87	20.2	99	22.5
Latvia	41	21.6	28	14.7	43	23.9
Lithuania	82	30.4	102	37.8	82	30.4
Malta	4	10.0	3	7.5	14	35.0
Mexico	913	7.1	1974	15.1	2713	20.6
Mongolia	29	8.8	22	6.7	40	11.8
Netherlands	809	47.3	916	53.3	1008	58.6
New Zealand	187	39.0	187	38.2	174	35.5
Nigeria	164	0.8	199	0.9	222	1.0
Norway	240	44.4	231	42.0	229	41.6
Oman	0	0.0	0	0.0	11	2.1
Pakistan	129	0.6	1003	4.5	1709	7.4
Panama	13	3.0	8	1.8	35	8.0
Paraguay	4	0.6	33	4.6	32	4.4
Peru	49	1.5	49	1.5	130	3.9
Philippines	132	1.2	262	2.4	590	5.2
Poland	751	19.9	770	20.4	874	23.2
Portugal	394	38.6	429	42.1	495	49.0
Qatar	17	5.9	48	16.6	53	17.7
Rep. of Korea	2280	44.4	2227	43.4	2034	39.6
Rep. of Moldova	3	0.8	0	0.0	3	0.8
Romania	174	9.1	156	8.2	230	12.1
Saudi Arabia	547	15.7	1044	29.6	1160	32.4
Serbia	6	0.7	5	0.6	18	2.1
Slovakia	131	23.8	115	20.9	154	28.0
Slovenia	47	22.4	52	24.8	53	25.2
Spain	2702	57.7	2950	63.2	3404	72.9
Sweden	429	42.5	445	43.6	465	45.6
Switzerland	296	34.0	362	41.6	342	38.9
Syrian Arab Rep.	211	12.1	315	17.2	329	17.0
Thailand	712	10.2	432	6.2	722	10.3
Türkiye	2498	29.6	3375	39.7	3621	42.3
UAE	61	6.2	130	13.0	152	15.0
UK	2567	37.8	2917	42.8	3192	46.6
US	23644	71.4	25490	76.6	26310	78.6
Uruguay	120	34.3	92	26.3	150	42.9

2022 VS 2021 VS 2020. GLOBAL DATA ON ORGAN DONATION AND TRANSPLANTATION

Liver Transplants

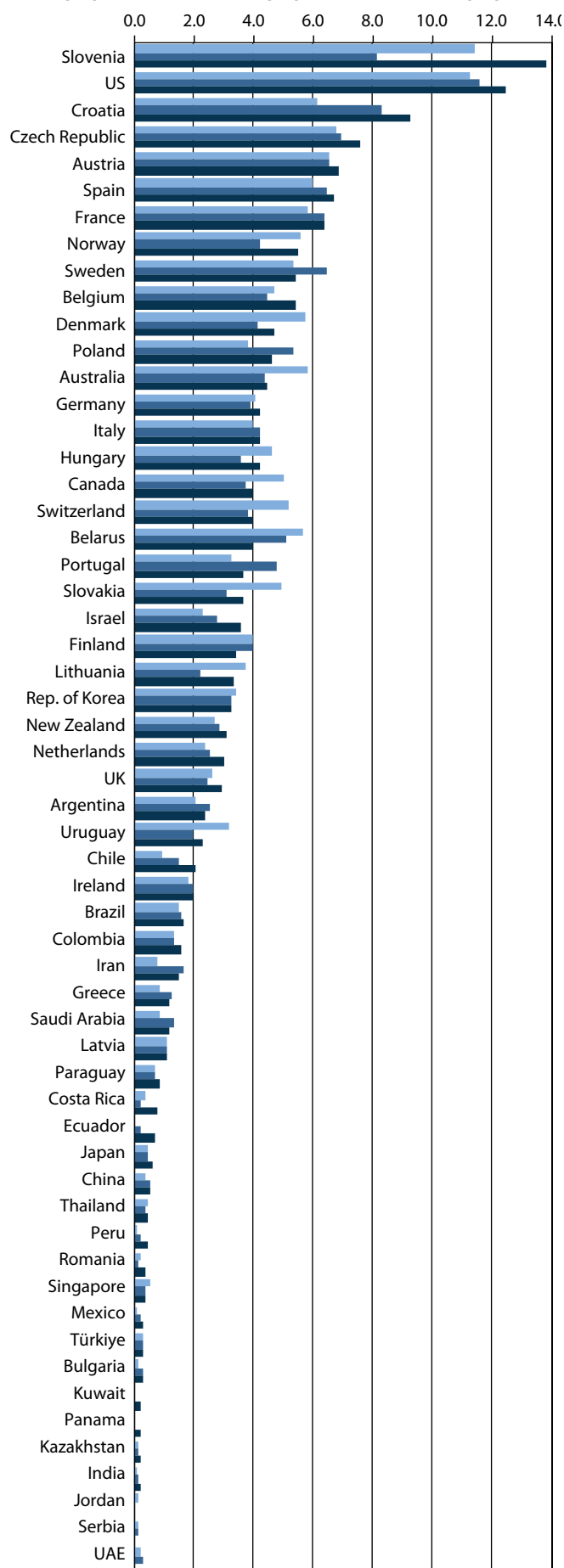


COUNTRY	2020		2021		2022	
	N	PMP	N	PMP	N	PMP
Argentina	316	7.0	438	9.6	443	9.6
Armenia	1	0.3	2	0.7	2	0.7
Australia	277	10.9	254	9.8	260	10.0
Austria	158	17.6	159	17.7	169	18.6
Belarus	86	9.1	91	9.7	96	10.2
Belgium	235	20.3	268	23.1	297	25.4
Bolivia	0	0.0	1	0.1	0	0.0
Bosnia Herzegovina	1	0.3	1	0.3	0	0.0
Brazil	2075	9.8	1944	9.1	2049	9.5
Bulgaria	7	1.0	13	1.9	6	0.9
Canada	565	15.0	589	15.5	599	15.6
Chile	127	6.6	125	6.5	156	8.1
China	5842	4.0	5834	4.0	6053	4.2
Colombia	199	3.9	229	4.5	248	4.8
Costa Rica	15	2.9	20	3.9	22	4.2
Croatia	95	23.2	104	25.4	89	21.7
Cuba	2	0.2	0	0.0	1	0.1
Czech Republic	172	16.1	186	17.4	180	16.8
Denmark	66	11.4	50	8.6	46	7.9
Dominican Rep.	1	0.1	1	0.1	1	0.1
Ecuador	9	0.5	27	1.5	28	1.5
Estonia	12	9.2	4	3.1	9	6.9
Finland	75	13.6	75	13.6	62	11.1
France	1128	17.3	1225	18.7	1294	19.7
Georgia	10	2.5	15	3.8	11	2.8
Germany	826	9.9	834	9.9	748	8.9
Greece	32	3.1	24	2.3	36	3.5
Hungary	50	5.2	59	6.1	67	7.0
India	1780	1.3	2847	2.0	3920	2.8
Iran	606	7.2	854	10.0	893	10.4
Ireland	37	7.6	35	7.0	51	10.2
Israel	85	9.8	96	10.9	99	11.1
Italy	1202	19.9	1396	23.1	1479	24.5
Japan	380	3.0	421	3.3	422	3.4
Kazakhstan	29	1.5	40	2.1	43	2.2
Kuwait	2	0.5	0	0.0	0	0.0
Latvia	2	1.1	1	0.5	3	1.7
Lithuania	14	5.2	22	8.1	32	11.9
Malta	1	2.5	0	0.0	0	0.0
Mexico	72	0.6	135	1.0	238	1.8
Mongolia	32	9.7	44	13.3	75	22.1
Netherlands	186	10.9	181	10.5	211	12.3
New Zealand	55	11.5	53	10.8	54	11.0
Norway	88	16.3	98	17.8	92	16.7
Oman	0	0.0	2	0.4	10	1.9
Pakistan	60	0.3	131	0.6	401	1.7
Panama	3	0.7	0	0.0	10	2.3
Peru	17	0.5	23	0.7	36	1.1
Philippines	0	0.0	0	0.0	1	0.0
Poland	291	7.7	297	7.9	362	9.6
Portugal	193	18.9	202	19.8	202	20.0
Qatar	1	0.3	6	2.1	8	2.7
Rep. of Korea	1542	30.1	1514	29.5	1428	27.8
Rep. of Moldova	2	0.5	4	1.0	7	1.8
Romania	62	3.2	53	2.8	75	3.9
Saudi Arabia	244	7.0	411	11.6	440	12.3
Serbia	3	0.3	3	0.3	0	0.0
Slovakia	19	3.5	26	4.7	43	7.8
Slovenia	25	11.9	21	10.0	18	8.6
Spain	1034	22.1	1078	23.1	1159	24.8
Sweden	172	17.0	170	16.7	166	16.3
Switzerland	135	15.5	151	17.4	142	16.1
Thailand	125	1.8	89	1.3	147	2.1
Türkiye	1320	15.7	1528	18.0	1610	18.8
UAE	11	1.1	46	4.6	57	5.6
UK	823	12.1	821	12.0	922	13.5
Uruguay	28	8.0	20	5.7	25	7.1
US	8906	26.9	9236	27.7	9528	28.5

2022 VS 2021 VS 2020. GLOBAL DATA ON ORGAN DONATION AND TRANSPLANTATION

Heart Transplants

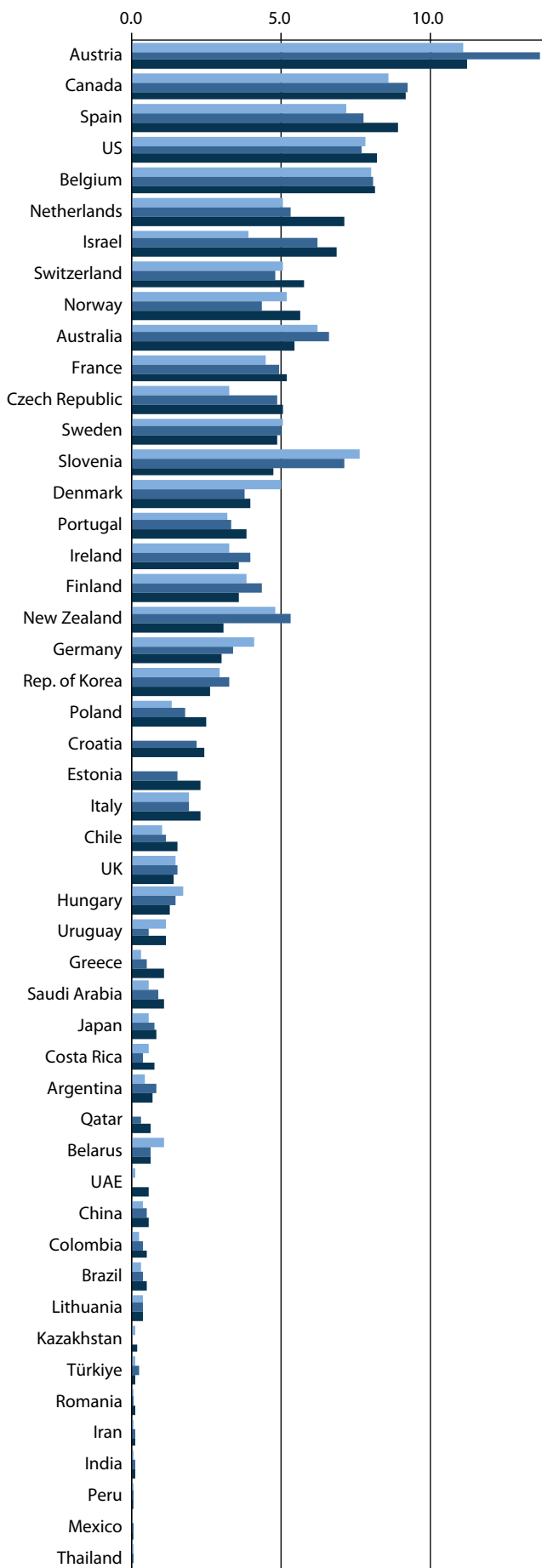
Heart Tx pmp 2020 Heart Tx pmp 2021 Heart Tx pmp 2022



COUNTRY	2020		2021		2022	
	N	PMP	N	PMP	N	PMP
Argentina	124	2.7	94	2.1	114	2.5
Australia	113	4.5	148	5.8	112	4.3
Austria	67	7.6	59	6.6	59	6.6
Belarus	52	5.5	53	5.6	48	5.1
Belgium	84	7.2	54	4.7	52	4.5
Brazil	383	1.8	308	1.4	334	1.6
Bulgaria	2	0.3	1	0.1	2	0.3
Canada	215	5.8	188	5.0	142	3.7
Chile	45	2.5	17	0.9	28	1.5
China	679	0.5	557	0.4	738	0.5
Colombia	74	1.5	67	1.3	69	1.3
Costa Rica	1	0.2	2	0.4	1	0.2
Croatia	38	9.3	25	6.1	34	8.3
Cuba	1	0.1	0	0.0	0	0.0
Czech Republic	74	7.0	72	6.7	74	6.9
Denmark	30	5.2	33	5.7	24	4.1
Ecuador	0	0.0	0	0.0	3	0.2
Finland	30	5.4	22	4.0	22	4.0
France	434	6.6	378	5.8	415	6.3
Germany	344	4.2	339	4.0	329	3.9
Greece	15	1.4	9	0.9	13	1.3
Hungary	72	7.4	45	4.6	34	3.5
India	187	0.1	89	0.1	151	0.1
Iran	126	1.5	67	0.8	141	1.7
Ireland	15	3.1	9	1.8	10	2.0
Israel	22	2.6	20	2.3	24	2.7
Italy	245	4.1	238	3.9	252	4.2
Japan	84	0.7	54	0.4	59	0.5
Kuwait	1	0.2	0	0.0	0	0.0
Latvia	0	0.0	2	1.1	2	1.1
Lithuania	8	2.8	10	3.7	6	2.2
Malaysia	0	0.0	1	0.0	0	0.0
Malta	1	2.5	0	0.0	0	0.0
Mexico	33	0.2	9	0.1	26	0.2
Netherlands	38	2.2	41	2.4	44	2.6
New Zealand	17	3.5	13	2.7	14	2.9
Norway	43	8.0	30	5.6	23	4.2
Paraguay	5	0.7	5	0.7	5	0.7
Poland	145	3.8	145	3.8	200	5.3
Portugal	29	2.8	33	3.2	49	4.8
Romania	6	0.3	4	0.2	3	0.2
Saudi Arabia	46	1.3	28	0.8	48	1.4
Serbia	7	0.8	1	0.1	1	0.1
Slovakia	21	3.8	27	4.9	17	3.1
Slovenia	22	10.5	24	11.4	17	8.1
Spain	300	6.5	278	5.9	302	6.5
Sweden	61	6.0	54	5.3	66	6.5
Switzerland	39	4.5	45	5.2	33	3.8
Thailand	31	0.4	33	0.5	24	0.3
Türkiye	84	1.0	21	0.2	24	0.3
UAE	5	0.5	2	0.2	3	0.3
UK	188	2.8	179	2.6	169	2.5
Uruguay	13	3.7	11	3.1	7	2.0
US	3597	10.9	3716	11.2	3863	11.6

Lung Transplants

■ Lung Tx pmp 2020 ■ Lung Tx pmp 2021 ■ Lung Tx pmp 2022

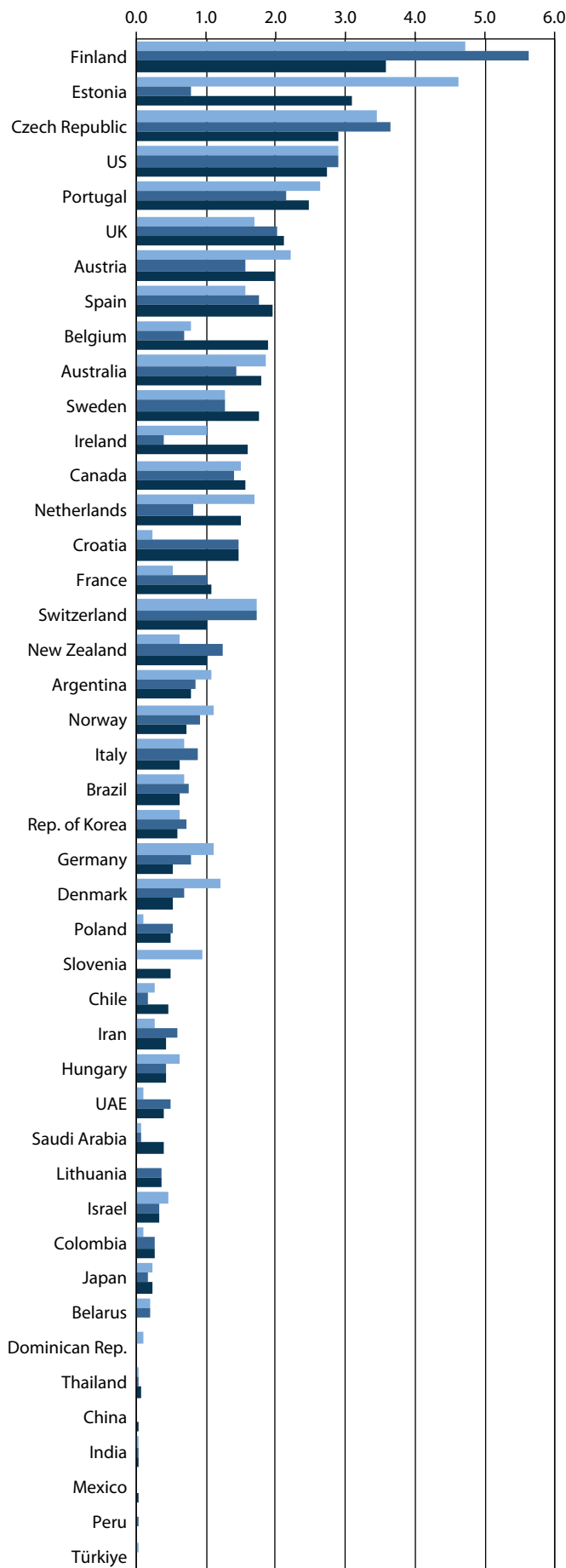


COUNTRY	2020		2021		2022	
	N	PMP	N	PMP	N	PMP
Argentina	21	0.5	37	0.8	33	0.7
Australia	158	6.2	171	6.6	142	5.4
Austria	100	11.1	123	13.7	102	11.2
Belarus	10	1.1	6	0.6	6	0.6
Belgium	93	8.0	94	8.1	95	8.1
Brazil	65	0.3	84	0.4	106	0.5
Canada	325	8.6	352	9.2	352	9.2
Chile	20	1.0	22	1.1	30	1.6
China	513	0.4	775	0.5	798	0.5
Colombia	12	0.2	21	0.4	27	0.5
Costa Rica	3	0.6	2	0.4	4	0.8
Croatia	0	0.0	9	2.2	10	2.4
Czech Republic	35	3.3	52	4.9	54	5.0
Denmark	29	5.0	22	3.8	23	4.0
Estonia	0	0.0	2	1.5	3	2.3
Finland	21	3.8	24	4.4	20	3.6
France	291	4.5	322	4.9	342	5.2
Germany	344	4.1	283	3.4	254	3.0
Greece	3	0.3	5	0.5	11	1.1
Hungary	17	1.8	14	1.5	12	1.3
India	67	0.0	133	0.1	144	0.1
Iran	3	0.0	10	0.1	9	0.1
Ireland	16	3.3	20	4.0	18	3.6
Israel	34	3.9	55	6.3	61	6.9
Italy	115	1.9	117	1.9	139	2.3
Japan	75	0.6	93	0.7	108	0.9
Kazakhstan	2	0.1	0	0.0	3	0.2
Lithuania	1	0.4	1	0.4	1	0.4
Mexico	0	0.0	6	0.0	11	0.1
Netherlands	87	5.1	92	5.3	122	7.1
New Zealand	23	4.8	26	5.3	15	3.1
Norway	28	5.2	24	4.4	31	5.6
Peru	1	0.0	1	0.0	3	0.1
Poland	51	1.3	68	1.8	93	2.5
Portugal	33	3.2	34	3.3	39	3.9
Qatar	0	0.0	1	0.3	2	0.7
Rep. of Korea	150	2.9	167	3.3	136	2.7
Romania	1	0.1	1	0.1	2	0.1
Saudi Arabia	20	0.6	32	0.9	38	1.1
Slovenia	16	7.6	15	7.1	10	4.8
Spain	336	7.2	362	7.8	415	8.9
Sweden	51	5.0	51	5.0	50	4.9
Switzerland	44	5.1	42	4.8	51	5.8
Thailand	1	0.0	1	0.0	0	0.0
Türkiye	11	0.1	21	0.2	11	0.1
UAE	1	0.1	0	0.0	6	0.6
UK	99	1.5	105	1.5	95	1.4
Uruguay	4	1.1	2	0.6	4	1.1
US	2597	7.8	2569	7.7	2743	8.2

2022 VS 2021 VS 2020. GLOBAL DATA ON ORGAN DONATION AND TRANSPLANTATION

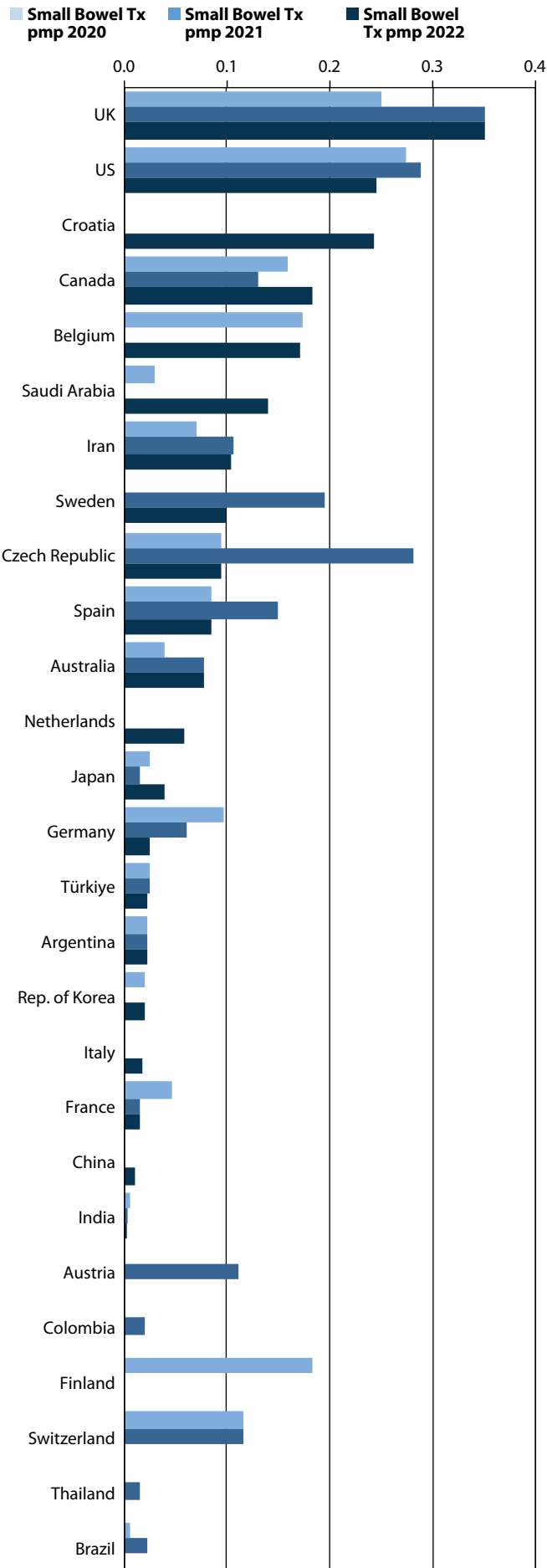
Pancreas Transplants

Pancreas Tx pmp 2020 Pancreas Tx pmp 2021 Pancreas Tx pmp 2022



COUNTRY	2020		2021		2022	
	N	PMP	N	PMP	N	PMP
Argentina	48	1.1	39	0.9	36	0.8
Australia	47	1.8	37	1.4	47	1.8
Austria	20	2.2	14	1.6	18	2.0
Belarus	2	0.2	2	0.2	0	0.0
Belgium	9	0.8	8	0.7	22	1.9
Brazil	148	0.7	162	0.8	133	0.6
Canada	57	1.5	53	1.4	60	1.6
Chile	5	0.3	3	0.2	9	0.5
China					45	0.0
Colombia	5	0.1	13	0.3	13	0.3
Croatia	1	0.2	6	1.5	6	1.5
Czech Republic	37	3.5	39	3.6	31	2.9
Denmark	7	1.2	4	0.7	3	0.5
Dominican Rep.	1	0.1	0	0.0	0	0.0
Estonia	6	4.6	1	0.8	4	3.1
Finland	26	4.7	31	5.6	20	3.6
France	34	0.5	67	1.0	70	1.1
Germany	92	1.1	65	0.8	44	0.5
Hungary	6	0.6	4	0.4	4	0.4
India	14	0.0	19	0.0	26	0.0
Iran	23	0.3	50	0.6	38	0.4
Ireland	5	1.0	2	0.4	8	1.6
Israel	4	0.5	3	0.3	3	0.3
Italy	41	0.7	54	0.9	38	0.6
Japan	28	0.2	23	0.2	30	0.2
Lithuania			1	0.4	1	0.4
Mexico	0	0.0	0	0.0	2	0.0
Netherlands	29	1.7	14	0.8	26	1.5
New Zealand	3	0.6	6	1.2	5	1.0
Norway	6	1.1	5	0.9	4	0.7
Peru	0	0.0	1	0.0	0	0.0
Poland	4	0.1	20	0.5	18	0.5
Portugal	27	2.6	22	2.2	25	2.5
Rep. of Korea	32	0.6	37	0.7	31	0.6
Saudi Arabia	2	0.1	3	0.1	14	0.4
Slovenia	2	1.0	0	0.0	1	0.5
Spain	73	1.6	82	1.8	92	2.0
Sweden	13	1.3	13	1.3	18	1.8
Switzerland	15	1.7	15	1.7	9	1.0
Thailand	1	0.0	1	0.0	4	0.1
Türkiye	1	0.0	0	0.0	0	0.0
UAE	1	0.1	5	0.5	4	0.4
UK	116	1.7	137	2.0	146	2.1
US	962	2.9	963	2.9	918	2.7

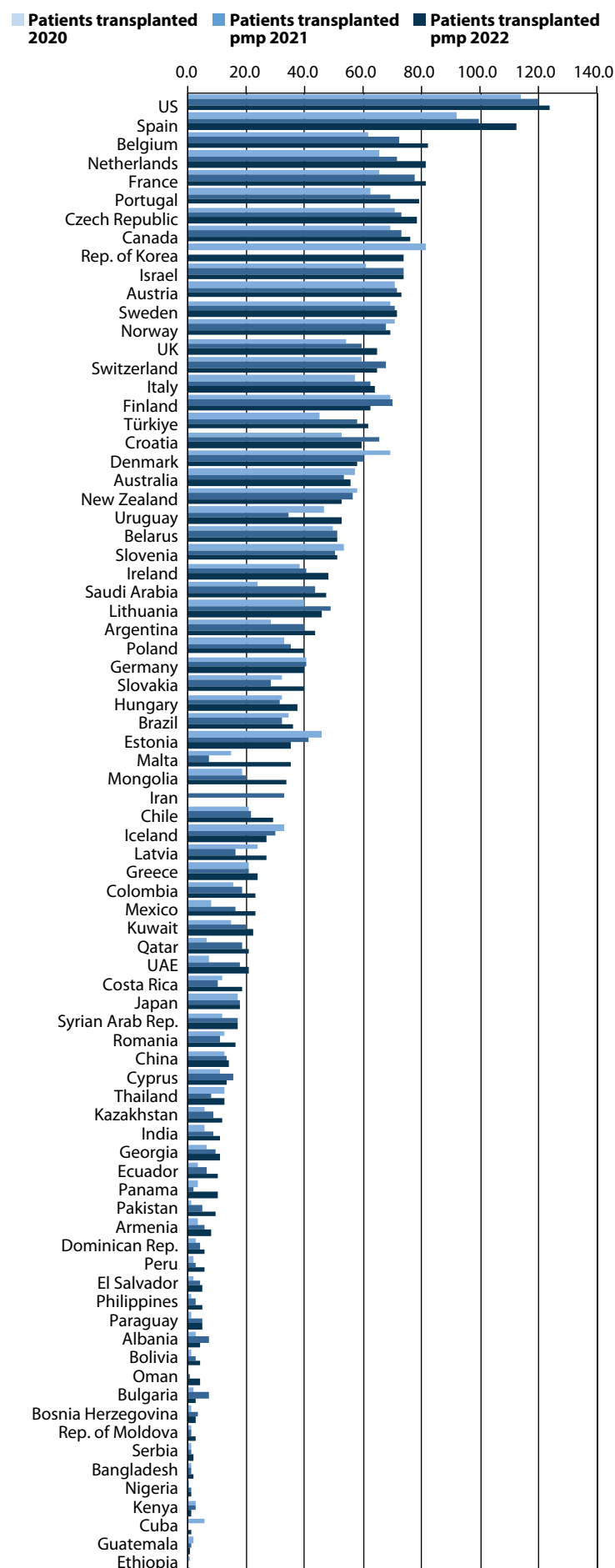
Small Bowel Transplants



COUNTRY	2020		2021		2022	
	N	PMP	N	PMP	N	PMP
Argentina	1	0.0	1	0.0	1	0.0
Australia	1	0.0	2	0.1	2	0.1
Austria	0	0.0	1	0.1	0	0.0
Belgium	2	0.2	0	0.0	2	0.2
Brazil	1	0.0	5	0.0		
Canada	6	0.2	5	0.1	7	0.2
China					15	0.0
Colombia	0	0.0	1	0.0	0	0.0
Croatia	0	0.0	0	0.0	1	0.2
Czech Republic	1	0.1	3	0.3	1	0.1
Finland	1	0.2	0	0.0	0	0.0
France	3	0.0	1	0.0	1	0.0
Germany	8	0.1	5	0.1	2	0.0
India	7	0.0	4	0.0	3	0.0
Iran	6	0.1	9	0.1	9	0.1
Italy	0	0.0	0	0.0	1	0.0
Japan	3	0.0	2	0.0	5	0.0
Netherlands	0	0.0			1	0.1
Rep. of Korea	1	0.0			1	0.0
Saudi Arabia	1	0.0	0	0.0	5	0.1
Spain	4	0.1	7	0.1	4	0.1
Sweden	0	0.0	2	0.2	1	0.1
Switzerland	1	0.1	1	0.1	0	0.0
Thailand	0	0.0	1	0.0	0	0.0
Türkiye	2	0.0	2	0.0	2	0.0
UK	17	0.3	24	0.4	24	0.4
US	91	0.3	96	0.3	82	0.2

2022 VS 2021 VS 2020. GLOBAL DATA ON ORGAN DONATION AND TRANSPLANTATION

Patients transplanted



COUNTRY	2020		2021		2022	
	N	PMP	N	PMP	N	PMP
Albania	7	2.4	21	7.2	13	4.5
Argentina	1273	28.2	1808	39.6	2004	43.6
Armenia	11	3.7	18	6.0	24	8.0
Australia	1449	56.8	1377	53.4	1447	55.4
Austria	637	70.8	641	71.2	663	72.9
Bangladesh	155	0.9	228	1.4	269	1.6
Belarus	463	49.3	481	51.2	484	51.5
Belgium	716	61.7	839	72.3	957	81.8
Bolivia	10	0.9	36	3.1	51	4.3
Bosnia Herzegovina	5	1.5	11	3.3	8	2.5
Brazil	7290	34.3	6879	32.1	7679	35.6
Bulgaria	16	2.3	48	7.0	20	2.9
Canada	2615	69.4	2777	72.9	2932	76.4
Chile	402	21.0	422	22.0	561	29.1
China	17897	12.4	19326	13.3	20244	13.9
Colombia	799	15.7	937	18.3	1191	23.1
Costa Rica	61	12.0	53	10.4	96	18.5
Croatia	216	52.7	268	65.4	245	59.8
Cuba	66	5.8	0	0.0	11	1.0
Cyprus	13	10.8	19	15.8	16	13.3
Czech Republic	760	71.0	778	72.7	839	78.4
Denmark	403	69.5	348	60.0	338	58.3
Dominican Rep.	29	2.7	46	4.2	62	5.6
Ecuador	66	3.8	117	6.5	192	10.6
El Salvador	11	1.7	27	4.2	35	5.3
Estonia	60	46.2	54	41.5	46	35.4
Ethiopia	8	0.1	0	0.0	9	0.1
Finland	381	69.3	387	70.4	350	62.5
France	4283	65.6	5097	77.9	5318	81.1
Georgia	27	6.8	37	9.3	45	11.3
Germany	3384	40.4	3422	40.8	3311	39.5
Greece	219	21.1	217	20.9	246	23.9
Guatemala	29	1.6	17	0.9	9	0.5
Hungary	314	32.4	299	31.1	360	37.5
Iceland	10	33.3	9	30.0	8	26.7
India	7426	5.4	12218	8.8	15968	11.4
Iran	187	38.2	202	32.9	242	48.4
Ireland	530	60.9	647	73.5	656	73.7
Israel	3437	56.8	3795	62.8	3876	64.3
Italy	2209	17.5	2235	17.7	2263	18.0
Kazakhstan	110	5.9	171	9.0	226	11.8
Kenya	142	2.6	160	2.9	55	1.0
Kuwait	63	14.7	87	20.2	100	22.7
Latvia	45	23.7	31	16.3	48	26.7
Lithuania	107	39.6	132	48.9	123	45.6
Malta	6	15.0	3	7.5	14	35.0
Mexico	997	7.7	2139	16.4	3000	22.8
Mongolia	61	18.5	66	20.0	115	33.8
Netherlands	1124	65.7	1231	71.6	1402	81.5
New Zealand	278	57.9	277	56.5	258	52.7
Nigeria	164	0.8	199	0.9	222	1.0
Norway	382	70.7	374	68.0	381	69.3
Oman	0	0.0	2	0.4	21	4.0
Pakistan	189	0.9	1134	5.0	2110	9.2
Panama	16	3.7	8	1.8	46	10.5
Paraguay	9	1.3	38	5.3	38	5.2
Peru	69	2.1	80	2.4	183	5.4
Philippines	132	1.2	262	2.4	590	5.2
Poland	1236	32.7	1333	35.3	1495	39.7
Portugal	637	62.5	710	69.6	798	79.0
Qatar	18	6.2	55	19.0	63	21.0
Rep. of Korea	4178	81.4			3793	73.9
Rep. of Moldova	5	1.3	4	1.0	10	2.5
Romania	241	12.6	213	11.2	314	16.5
Saudi Arabia	840	24.1	1535	43.5	1684	47.0
Serbia	10	1.1	9	1.0	19	2.2
Slovakia	177	32.2	158	28.7	217	39.5
Slovenia	112	53.3	105	50.0	107	51.0
Spain	4315	92.2	4655	99.7	5251	112.4
Sweden	702	69.5	724	71.0	733	71.9
Switzerland	519	59.7	587	67.5	570	64.8
Syrian Arab Rep.	211	12.1	315	17.2	329	17.0
Thailand	862	12.3	542	7.7	894	12.8
Türkiye	3830	45.4	4948	58.2	5268	61.5
UAE	75	7.6	177	17.7	210	20.8
UK	3686	54.3	4038	59.2	4453	65.0
Uruguay	162	46.3	120	34.3	184	52.6
US	37580	113.5	39862	119.7	41292	123.3

International Data on Tissues and Hematopoietic Stem Cell Donation and Transplantation Activity. Year 2022



Data provided by National Competent Authorities:

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Glossary (Tissues)

A

Adipose tissue: loose connective tissue, composed of adipocytes and stromal vascular fraction, which serves as energy storage and endocrine organ.

Amniotic Membrane: the innermost layer of the placenta consisting of a thick basement membrane and an avascular stromal matrix.

Autologous: refers to tissues or cells removed from and applied in the same individual.

B

Blood vessels: part of the circulatory system that transport blood throughout the body. They include arteries (ducts transporting blood from the heart to the periphery) and veins (ducts transporting blood from the periphery to the heart).

C

Cornea: the transparent anterior part of the outer fibrous coat of the eye. A collagenous tissue bounded by an outer stratified epithelium and an inner monolayer of endothelial cells. The major refractive component of the eye.

Craniectomy: the surgical removal of a portion of the skull.

D

Distribution: the transportation and delivery of tissues and cells intended for human application to other tissue establishments or the organisation responsible for human application in the EU. It does not include the issuing of tissues and cells for immediate transplantation.

Donation: donating human tissues or cells intended for human applications. One donation may include more units of the same tissue.

E

Export: the transportation and delivery of tissues and cells intended for human application to a tissue establishments or an organisation responsible for human application outside the EU (third country).

H

Heart Valve: one of the four structures within the heart that prevent backflow of blood by

opening and closing with each heartbeat. They include two semilunar valves (aortic and pulmonary), the mitral (or bicuspid) valve, and the tricuspid valve. They permit blood flow in only one direction.

I

Import: the act of bringing tissues or cells into a EU Member State from a country outside the EU (third country) for the purpose of human application, further processing or storage.

M

Musculoskeletal: tissues that are part of the skeleton and muscular system, including muscles, bones, cartilage, tendons and ligaments, which function in the support and movement of the body.

N

Number of tissues distributed: number of tissue transported and delivered for human application.

Number of tissues processed: number of tissues that were declared suitable for human application after having undergone the required operations (preparation, manipulation, preservation, storage and packaging).

Number of tissues procured: the number of donated tissue made available through the process of procurement.

Number of recipients for each type of tissues: the total number of patients who had at least one unit of tissues or cells applied during the year concerned in a given country.

O

Ocular tissue: tissue from the eye ball such as corneal tissue, scleral tissue or limbal tissue procured from a donor for human application.

Other tissue: all human tissues for human application that do not have a dedicated row on the form.

P

Pancreas: a large lobulated gland that in humans lies in front of the upper lumbar vertebrae and behind the stomach and is somewhat hammer-shaped and firmly attached anteriorly.

only to the curve of the duodenum with which it communicates through one or more pancreatic ducts.

Pancreatic islets: preparation of a group of heterogeneous cells containing functional insulin-producing cells (beta cells) and glucagon-producing cells (alpha cells) for human application.

Parathyroid: endocrine glands producing and secreting parathyroid hormone.

Placenta: an organ that connects the developing foetus to the uterine wall to allow nutrient uptake, waste elimination and gas exchange via the mother's blood supply.

R

Recipient: person to whom human tissues, cells or reproductive cells and embryos are applied.

Retrieval or procurement: a process by which tissues or cells are made available for banking or human application. This process includes donor identification, evaluation, obtaining consent for donation, donor

maintenance and retrieval of tissues, cells or organs.

S

Skin: an allograft comprising of the epidermis and part or all of the dermis.

T

Tissue: an aggregate of cells joined together by, for example, connective structures and performing a particular function.

Tissue donation (effective): when tissue intended for human application is retrieved from a human body.

Transplantation/implantation/grafting: transfer (engraftment) of human tissues or cells from a donor to a recipient with the aim of restoring function(s) in the body.

U

Unit: a single piece of tissue or a packaging containing a defined amount of tissue ready for distribution.

Glossary (Haematopoietic Progenitor Cells)

A

Allogeneic: refers to tissues or cells removed from one individual and applied to another of the same species.

Autologous use: refers to tissues or cells removed from and applied in the same individual.

B

Banking: processing, preservation, storage and distribution of cells for human application or other purposes, including research and training.

C

Collection: any procedure for procuring a cellular therapy product regardless of technique or source (Synonym: harvest).

Cord Blood: blood collected from placental vessels and umbilical cord blood vessels after the umbilical cord is clamped and/or severed as a source of haematopoietic progenitor cells.

Cord Blood Bank: a specific type of tissue establishment in which haematopoietic progenitor cells collected from placental and umbilical cord blood vessels are processed, cryopreserved and stored. It may also be responsible for collection, testing or distribution.

D

Distribution: the transportation and delivery of tissues and cells intended for human application to other tissue establishments or the organisation responsible for human application in the EU. It does not include the issuing of tissues and cells for immediate transplantation.

Donation: donating human tissues or cells intended for human applications.

Donor: a person who is the source of cells or tissue for a cellular therapy product.

Donor Registry: an organisation responsible for coordinating the search for hematopoietic cells from donors (including cord blood) unrelated to the potential recipient.

H

Haematopoietic Progenitor Cells (HPC): primitive haematopoietic cells capable of self-renewal as well as maturation into any of the haematopoietic lineages, including committed and lineage-restricted progenitor cells, unless otherwise specified and regardless of tissue source. Also referred to as "haematopoietic stem cells".

R

Recipient: person to whom human tissues, cells or reproductive cells and embryos are applied.

Related: existence of a genetic relationship between donor and recipient.

S

Search: the process of identifying a suitable stem cell source for a patient in need of a transplant.

T

Transplantation: the administration of allogeneic, autologous, or syngeneic HPC with the intent of providing transient or permanent engraftment in support of therapy of disease.

U

Unrelated: where there exists no genetic relationship between donor and recipient.

PRELIMINARY DATA ON TISSUES - YEAR 2022

EUROPEAN UNION COUNTRIES

Country	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy
Population (Source: UNFPA, State of world population, 2022 - in millions)	9.1	11.7	6.8	4.1	1.2	10.7	5.8	1.3	5.6	65.6	83.9	10.3	9.6	5.0	60.3
TYPE OF TISSUE	TYPE OF DATA														
CORNEA	N. of tissue donations	39	284		516	1070	24	295	5959	150	8871				
	Tissue donation PMP	5.7	69.3		48.2	184.5	18.5	52.7	90.8	15.6	147.1				
	N. of tissues retrieved	78	393		908	1070	48	527	11822	240	16105				
	N. of tissues processed (units)	78	230		788	1070	48	390	6020	189	10360				
	N. of tissues distributed nationally (units)	75	221		705	672	47	377	5906	128	6799				
	N. of tissues imported (units)	13	0		0	0	0	0	0	808	0				
	N. of tissues exported (units)	0	0		83	0	0	0	46	137	0				
	N. of tissues transplanted	90	217		705	672	51	451	5906	136	977				
	N. of patients transplanted	90	205		704	747	51	396	5692	106					
	N. of transplant procedures	90	216		705					140	6754				
SKIN	N. of tissue donations	62	0		156		4	18	310	0	403				
	Tissue donation PMP	9.1	0.0		14.6		3.1	3.2	4.7	0.0	6.7				
	N. of tissues retrieved (cm ²)	100000			405176	0		102550	597096	28325	938369				
	N. of tissues processed (units)	62	0		37332		16	599	428743	0					
	N. of tissues distributed nationally (units)	0	0		240		15	451	41825505	202646	4451				
	N. of tissues imported (units)	0	12		0		0	0	0	164500	0				
	N. of tissues exported (units)	0	0		3367		0	0	30175	7997	0				
	N. of tissues transplanted	0	0		240		15		41825505	1					
	N. of patients transplanted	0	0		54		3	19	181	1					
	N. of transplant procedures	0	0		54					1	1628				
HEART VALVE	N. of tissue donations	4			106			47	310	30	217				
	Tissue donation PMP	1.0			9.9			8.4	4.7	3.1	3.6				
	N. of tissues retrieved (units)	6			147	0		61	847	560	349				
	N. of tissues processed (units)	6			147			28	200	448	226				
	N. of tissues distributed nationally (units)	7			146			48	220	214	241				
	N. of tissues imported (units)	3			0			0	54	3	0				
	N. of tissues exported (units)	0			0			0	49	38	0				
	N. of tissues transplanted	6			141				220	0					
	N. of patients transplanted	6			140			48	219	0					
	N. of transplant procedures	6			141					0	231				
BLOOD VESSEL	N. of tissue donations	3			14		6	19	9	5836	74				
	Tissue donation PMP	0.7			1.3		1.0	14.6	1.6	89.0	7.7				
	N. of tissues retrieved (units)	8			25		31	25	17	6901	323				
	N. of tissues processed (units)	4			15		31	36	12	3406	307				
	N. of tissues distributed nationally (units)	5			12		1	21	12	3401	104				
	N. of tissues imported (units)	0			0		0	0	0	30	0				
	N. of tissues exported (units)	0			0		0	0	90	2	0				
	N. of tissues transplanted	5			12		25	22		3401	20				
	N. of patients transplanted	3			12		13	20	12	2072	186				
	N. of transplant procedures	3			12						93				

PRELIMINARY DATA ON TISSUES - YEAR 2022

EUROPEAN UNION COUNTRIES

Country	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy
Population (Source: UNFPA, State of world population, 2022 - in millions)	9.1	11.7	6.8	4.1	1.2	10.7	5.8	1.3	5.6	65.6	83.9	10.3	9.6	5.0	60.3
TYPE OF TISSUE	TYPE OF DATA														
MUSCULOSKELETAL	N. of tissue donations		5342	214	202	1430	2315	169	432	35441			472		2200
	Tissue donation PMP		785.6	52.2	168.3	133.6	395.1	130.0	77.1	540.3			49.2		36.5
	N. of tissues retrieved		6671	302	399	4612	2729	196	1117	36262	22780		538		7043
	N. of tissues processed (units)		219	22	224	4580	3230	746	900	28529	149394		218		
	N. of tissues distributed nationally (units)		192	126		2007	2037	813	1393	96519	74093		4800		12284
	N. of tissues imported (units)		8667	10	327	0	809	168	0	4705	11731		4733		0
	N. of tissues exported (units)		596	0		1840	0	0	0	18067	44006		4842		61
	N. of tissues transplanted		146	205	127	2007	3501	618		96519			190		
	N. of patients transplanted		141	137	127	1955	2969	299	831	67385			81		
	N. of transplant procedures		142	137	127	2007							53		10325
PLACENTA/AMNIOTIC MEMBRANES	N. of tissue donations		130	6		567	1	2	3	400			2		319
	Tissue donation PMP		19.1	1.5		53.0	0.2	1.5	0.5	6.1			0.2		5.3
	N. of tissues retrieved		130	191		567	0	2	3	400	86		2		319
	N. of tissues processed (units)		485	191		4021	30	64	164	8759	6651		97		
	N. of tissues distributed nationally (units)		516	173		2136	22	65	175	8056	5464		88		2070
	N. of tissues imported (units)		0	0		0	0	0	0	0	0		0		
	N. of tissues exported (units)		0	0		480	0	0	0	104	191		3		
	N. of tissues transplanted		430	198	1	688	44	65		8056			122		
	N. of patients transplanted		421	146	1	268	38	53	166	7029			91		
	N. of transplant procedures		421	165	1	668							114		2306
PANCREAS/PANCREATIC ISLETS	N. of tissue donations		0	0	4								0		59
	Tissue donation PMP		0.0	0.0	0.4								0.0		1.0
	N. of tissues retrieved		0	0	4		0			49	2		0		59
	N. of tissues processed (units)		0	0	4						2		0		
	N. of tissues distributed nationally (units)		0	0									0		
	N. of tissues imported (units)		0	0	4						2		0		19
	N. of tissues exported (units)		0	0	0						0		0		
	N. of tissues transplanted		0	0	0						0		0		
	N. of patients transplanted		0	0	4					4			0		
	N. of transplant procedures		0	0	4					18			0		35
HEPATIC TISSUE	N. of tissue donations		0	0									0		
	Tissue donation PMP		0.0	0.0									0.0		
	N. of tissues retrieved		0	0			0				0		0		
	N. of tissues processed (units)		0	0							0		0		
	N. of tissues distributed nationally (units)		0	0							0		0		
	N. of tissues imported (units)		0	0							0		0		
	N. of tissues exported (units)		0	0							0		0		
	N. of tissues transplanted		0	0							0		0		
	N. of patients transplanted		0	0									0		
	N. of transplant procedures		0	0									0		

PRELIMINARY DATA ON TISSUES - YEAR 2022

EUROPEAN UNION COUNTRIES

Country	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy
Population (Source: UNFPA, State of world population, 2022 - in millions)	9.1	11.7	6.8	4.1	1.2	10.7	5.8	1.3	5.6	65.6	83.9	10.3	9.6	5.0	60.3
TYPE OF TISSUE	TYPE OF DATA														
ADIPOSE TISSUE	N. of tissue donations			0		1	14		8				0	11	
	Tissue donation PMP			0.0		0.1	2.4		1.4				0.0	0.2	
	N. of tissues retrieved			0		1	9		8		182		0	11	
	N. of tissues processed (units)			0		1	14		752		153		0		
	N. of tissues distributed nationally (units)			0		0	14		140		145		0		16
	N. of tissues imported (units)			0		0	0		0		0		0		
	N. of tissues exported (units)			0		0	0		0		0		0		
	N. of tissues transplanted			0		0	14						0		
	N. of patients transplanted			0		0	14		40				0		
N. of transplant procedures			0		0	14						0		10	
PARATHYROID	N. of tissue donations			0		0	0						0	15	
	Tissue donation PMP			0.0		0.0	0.0						0.0	0.2	
	N. of tissues retrieved			0		0	0			0	0		0	401	
	N. of tissues processed (units)			0		0				0	0		0		
	N. of tissues distributed nationally (units)			0		0				0	0		0		
	N. of tissues imported (units)			0		0	0			0	0		0	1	
	N. of tissues exported (units)			0		0	0			0	0		0		
	N. of tissues transplanted			0		0	0			0	0		0		
	N. of patients transplanted			0		0				0			0		
N. of transplant procedures			0		0	0			0			0		1	
NEURONAL TISSUE	N. of tissue donations			0			0		0				0		
	Tissue donation PMP			0.0			0.0		0.0				0.0		
	N. of tissues retrieved			0			0		0		0		0		
	N. of tissues processed (units)			0			0		0		0		0		
	N. of tissues distributed nationally (units)			0			7		1		0		0		
	N. of tissues imported (units)			0		0	65		0		0		0		
	N. of tissues exported (units)			0		0	0		0		0		0		
	N. of tissues transplanted			0		0	17		1	0			0		
	N. of patients transplanted			0		0	17		1	0			0		
N. of transplant procedures			0		0	17		1				0			
AUTOLOGOUS CRANIOCTOMY PIECES	N. of tissues retrieved			0		238	44		8	390	0		0		
OTHER TISSUE	N. of tissue donations			6		780	0	33	47				151		
	Tissue donation PMP			1.5		72.9	0.0	25.4	8.4				15.7		
	N. of tissues retrieved	33		33		780	0	33	50		1911		296		
	N. of tissues processed (units)			0		238	0		25		2639		3122		
	N. of tissues distributed nationally (units)			0		0	131		32		198		6		
	N. of tissues imported (units)			0		0	166		0		2328		0		
	N. of tissues exported (units)			0		0	0	33	0		18		0		
	N. of tissues transplanted			0		0	160						13		
	N. of patients transplanted			0		0	149		32				13		
N. of transplant procedures			0		0							13			

PRELIMINARY DATA ON TISSUES - YEAR 2022

Country	EUROPEAN UNION COUNTRIES												OTHER COUNTRIES			
	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	Moldova, Republic of	Norway	Switzerland	United Kingdom
Population (Source: UNFPA, State of world population, 2022 - in millions)	1.8	2.7	0.6	0.4	17.2	37.7	10.1	19	5.5	2.1	46.7	10.2	4.0	5.5	8.8	68.5
TYPE OF TISSUE	TYPE OF DATA															
CORNEA	N. of tissue donations	23	31	119	2187		405	42	365		3457	632	30	510	355	
	Tissue donation PMP	1.28	11.5	198.3	127.2		40.1	2.2	66.4		74.0	62.0	7.5	92.7	40.3	
	N. of tissues retrieved	46	62	0	4051		774	84	551		7281	1287	58	510	708	
	N. of tissues processed (units)	46	62	0	4970		407		552		4906	1445	30	534		
	N. of tissues distributed nationally (units)	54	62	0	3807		397		316		4518	1072	20	43		
	N. of tissues imported (units)	9	0	0	0		272	39	9		87	15	0	73	570	
	N. of tissues exported (units)	0	0	0	568		0	0	0		74	0	0	0	0	
	N. of tissues transplanted		69	0	3240		669	123	313		4643	1049	20	470	932	
	N. of patients transplanted		59	0	3217		658	123	289		4208	827	20	452		
	N. of transplant procedures		62	0			669	123	324			988	20	472	940	
SKIN	N. of tissue donations		0		391		1		95		367	23	1	0		
	Tissue donation PMP		0.0		22.7		0.1		17.3		7.9	2.3	0.3	0.0		
	N. of tissues retrieved (cm ²)		0				1214		0		821917	22	1320	0		
	N. of tissues processed (units)		0		591		3		0		391937	94	11	0		
	N. of tissues distributed nationally (units)		0		2383		0		48		341778	33	2	0		
	N. of tissues imported (units)		0		160		21		0			33	0	2048		
	N. of tissues exported (units)		0		15842		0		0		65000	0	0	0		
	N. of tissues transplanted		0		1936		21		40		407773.8 cm ²	20	2	1825		
	N. of patients transplanted		0		78		3		24		58	22	1	28		
	N. of transplant procedures		0				9		119			50	1	69		
HEART VALVE	N. of tissue donations		3		213		4		1		241	141	0	0	56	
	Tissue donation PMP		5.0		12.4		0.4		0.2		5.2	13.8	0.0	0.0	6.4	
	N. of tissues retrieved		0		426		8		1		474	265	0	17	56	
	N. of tissues processed (units)		0		430		8		1		207	265	0	0	0	
	N. of tissues distributed nationally (units)		0		85		6		2		58	97	0	0	0	
	N. of tissues imported (units)		0		0		0		0			0	0	29	17	
	N. of tissues exported (units)		3		24		0		0		140	37	0	0	53	
	N. of tissues transplanted		0		93		6		2		39	134	0	29	20	
	N. of patients transplanted		0		93		6		2		25	118	0	29	20	
	N. of transplant procedures		0		93		6		2			123	0	29	20	
BLOOD VESSEL	N. of tissue donations	7		0	10		0		0		194	267	0	109	56	
	Tissue donation PMP	2.6		0.0	0.6		0.0		0.0		4.2	26.2	0.0	19.8	6.4	
	N. of tissues retrieved		0		10		0		0		375	399	0	109	56	
	N. of tissues processed (units)		20		118		0		0		282	411	0	109	0	
	N. of tissues distributed nationally (units)		14		38		0		0		300	65	0	109	0	
	N. of tissues imported (units)		43		0		0		0			12	0	0	8	
	N. of tissues exported (units)		43		27		0		0		10	21	0	0	54	
	N. of tissues transplanted		14		30		0		0		251	72	0	53	8	
	N. of patients transplanted		11		25		0		0		143	57	0	53	4	
	N. of transplant procedures		14				0		0			60	0	53	4	

PRELIMINARY DATA ON TISSUES - YEAR 2022

EUROPEAN UNION COUNTRIES																	OTHER COUNTRIES			
Country	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	Moldova, Republic of	Norway	Switzerland	United Kingdom				
Population (Source: UNFPA, State of world population, 2022 - in millions)																				
	1.8	2.7	0.6	0.4	17.2	37.7	10.1	19	5.5	2.1	46.7	10.2	4.0	5.5	8.8	68.5				
TYPE OF TISSUE	TYPE OF DATA																			
MUSCULOSKELETAL	N. of tissue donations	49	120	0	3192		75	240	342		1837	1360	65	411	196					
	Tissue donation PMP	27.2	44.4	0.0	185.6		7.4	12.6	62.2		39.3	133.3	16.3	74.7	22.3					
	N. of tissues retrieved	50	69	0	3192		601	261	197		24430	1401	86	420	222					
	N. of tissues processed (units)	46	131	0	6650		132	261	293		28077	1692	450	222						
	N. of tissues distributed nationally (units)	12	98	489	12690		206	197	512		31369	1264	476	23						
	N. of tissues imported (units)	0	0	6425	166		86	0	0		28	154	0	81	203					
	N. of tissues exported (units)	0	0	5936	39316		0	0	44		1296	0	0	0	0					
	N. of tissues transplanted		98	0	6025		201	197	429		28207		406	358	344					
	N. of patients transplanted		81	0	5026			164	265		17823		153	338	337					
	N. of transplant procedures		96	0			159	164	278				153	353	338					
PLACENTA/AMNIOTIC MEMBRANES	N. of tissue donations	6	7	0	2		4		29		665	5	16	4	14					
	Tissue donation PMP	3.3	2.6	0.0	0.1		0.4		5.3		14.2	0.5	4.0	0.7	1.6					
	N. of tissues retrieved	6	7	0	2		4		33		2444	496	16	4	81					
	N. of tissues processed (units)		66	0	13		219		255		1560	552	149	169						
	N. of tissues distributed nationally (units)		59	3	213		193		263		2127	466	129	23						
	N. of tissues imported (units)		0	3	11		0		0			0	0	32	12					
	N. of tissues exported (units)		0	3	162		0		0		41	0	0	0	0					
	N. of tissues transplanted		59	0	128		193		326		4710	436	129	95	111					
	N. of patients transplanted		59	0	110		166		245		1382	348	100	91	102					
	N. of transplant procedures		59	0			182		270			365	100	95	111					
PANCREAS/PANCREATIC ISLETS	N. of tissue donations			2	167		0		0			14		14	17					
	Tissue donation PMP			3.3	9.7		0.0		0.0			1.4		2.5	1.9					
	N. of tissues retrieved			0	167		0		0			14		14	17					
	N. of tissues processed (units)			0	15		0		0			14		10						
	N. of tissues distributed nationally (units)			0	15		0		0			4		0						
	N. of tissues imported (units)			0	0		0		0			0		0	0					
	N. of tissues exported (units)			0	0		0		0			0		0	0					
	N. of tissues transplanted			0	15		0		0			6		5	4					
	N. of patients transplanted			0	15		0		0			6		5	4					
	N. of transplant procedures			0			0		0			6		5	4					
HEPATIC TISSUE	N. of tissue donations			0			0		0			0		0						
	Tissue donation PMP			0.0			0.0		0.0			0.0		0.0						
	N. of tissues retrieved			0			0		0			0		0						
	N. of tissues processed (units)			0			0		0			0		0						
	N. of tissues distributed nationally (units)			0			0		0			0		0						
	N. of tissues imported (units)			0			0		0			0		0	0					
	N. of tissues exported (units)			0			0		0			0		0	0					
	N. of tissues transplanted			0			0		0			0		0	0					
	N. of patients transplanted			0			0		0			0		0	0					
	N. of transplant procedures			0			0		0			0		0	0					

PRELIMINARY DATA ON TISSUES - YEAR 2022

EUROPEAN UNION COUNTRIES

OTHER COUNTRIES

Country	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	Moldova, Republic of	Norway	Switzerland	United Kingdom
Population (Source: UNFPA, State of world population, 2022 - in millions)	1.8	2.7	0.6	0.4	17.2	37.7	10.1	19	5.5	2.1	46.7	10.2	4.0	5.5	8.8	68.5
TYPE OF TISSUE	TYPE OF DATA															
ADIPOSE TISSUE	N. of tissue donations		0				0		104				0	0		
	Tissue donation PMP		0.0				0.0		18.9				0.0	0.0		
	N. of tissues retrieved		0				0		104				0	0		
	N. of tissues processed (units)		0				0		104				0	0		
	N. of tissues distributed nationally (units)		0				0		104				0	0		
	N. of tissues imported (units)		0				0		0				0	0		
	N. of tissues exported (units)		0				0		0				0	0		
	N. of tissues transplanted		0				0		104				0	0		
PARATHYROID	N. of patients transplanted		0				0		104				0	0		
	N. of transplant procedures		0				0		104				0	0		
	N. of tissue donations		0				0		0				0	0		
	Tissue donation PMP		0.0				0.0		0.0				0.0	0.0		
	N. of tissues retrieved		0				0		0				0	0		
	N. of tissues processed (units)		0				0		0				0	105		
	N. of tissues distributed nationally (units)		0				0		0				0	0		
	N. of tissues imported (units)		0				0		0				0	0		
NEURONAL TISSUE	N. of tissues exported (units)		0				0		0				0	105		
	N. of tissues transplanted		0				0		0				0	0		
	N. of patients transplanted		0				0		0				0	0		
	N. of transplant procedures		0				0		0				0	0		
	N. of tissue donations		0				0		0				0	0		
	Tissue donation PMP		0.0				0.0		0.0				0.0	0.0		
	N. of tissues retrieved		0				0		0				0	0		
	N. of tissues processed (units)		0				0		0				0	0		
AUTOLOGOUS CRANIOCTOMY PIECES	N. of tissues distributed nationally (units)		0				0		0				0	0		
	N. of tissues imported (units)		0				0		0				0	0		
	N. of tissues exported (units)		0				0		0				0	0		
	N. of tissues transplanted		0				0		0				0	0		
	N. of patients transplanted		0				0		0				0	0		
	N. of transplant procedures		0				0		0				0	0		
	N. of tissue donations		0				0		0				0	0		
	Tissue donation PMP		0.0				0.0		0.0				0.0	0.0		
OTHER TISSUE	N. of tissues retrieved		0				0		0				0	0		
	N. of tissues processed (units)		0				0		0				0	0		
	N. of tissues distributed nationally (units)		0				0		0				0	0		
	N. of tissues imported (units)		0				0		0				0	0		
	N. of tissues exported (units)		0				0		0				0	0		
	N. of tissues transplanted		0				0		0				0	98		
	N. of patients transplanted		0				0		255				0	90		
	N. of transplant procedures		0				0		265				0	98		
AUTOLOGOUS CRANIOCTOMY PIECES	N. of tissues retrieved		0		157		0		133			77	0	8		
	N. of tissue donations		0				0		0				0	0		
	Tissue donation PMP		0.0				0.0		0.0				0.0	0.0		
	N. of tissues retrieved		0				0		0				0	0		
	N. of tissues processed (units)		0				0		0				0	0		
	N. of tissues distributed nationally (units)		0				0		0				0	0		
	N. of tissues imported (units)		0				0		0				0	0		
	N. of tissues exported (units)		0				0		0				0	0		
OTHER TISSUE	N. of tissues transplanted		0				0		0				0	0		
	N. of patients transplanted		0				0		0				0	0		
	N. of transplant procedures		0				0		0				0	0		
	N. of tissue donations	194		0	9		0		2092				1	53		
	Tissue donation PMP	107.8		0.0	0.5		0.0		380.4				0.3	9.6		
	N. of tissues retrieved	196		0	9		0		2238				2	120		
	N. of tissues processed (units)	0		0	9		0		2168				7	8		
	N. of tissues distributed nationally (units)	0		0	8		0		304				0	0		
OTHER TISSUE	N. of tissues imported (units)	0		0			0		528				0	0		
	N. of tissues exported (units)	0		0			0		129				0	0		
	N. of tissues transplanted	0		0			0		299				0	98		
	N. of patients transplanted	0		0			0		255				0	90		
	N. of transplant procedures	0		0			0		265				0	98		

PRELIMINARY DATA ON TISSUES - YEAR 2022

LATIN AMERICAN COUNTRIES

Country	Argentina	Bolivia	Brazil	Chile	Colombia	Costa Rica	Cuba	Dominican Republic	Ecuador	Mexico	Panama	Paraguay	Peru	Uruguay
<i>Population (Source: UNFPA, State of world population, 2022 - in millions)</i>														
	46.0	12.0	215.4	19.3	51.5	5.2	11.3	11.1	18.1	131.6	4.4	7.3	33.7	3.5
TYPE OF TISSUE	TYPE OF DATA													
CORNEA	N. of tissue donations	0	30630				34		178	3544		76	268	129
	Tissue donation PMP	32.2	142.2				3.0		9.8	26.9		10.4	8.0	36.9
	N. of tissues retrieved	2923	0	26970			67		183	3439		76	33	271
	N. of tissues transplanted	0	0	14074		164	30		151	3066		74	268	270
	N. of patients transplanted	0	0						151	3066		74	268	250
	N. of transplant procedures	0	14074			179	30		151	3066		74	0	267
SKIN	N. of tissue donations	78	0	650		3	0		2	153			0	9
	Tissue donation PMP	1.7	0.0	3.0		0.6	0.0		0.1	1.2			0.0	2.6
	N. of tissues retrieved		0	78590		3961	0		2	102			0	19700
	N. of tissues transplanted		0	56422		13	0		31				0	366
	N. of patients transplanted		0			4			1				0	14
	N. of transplant procedures		0	56422		13	0		1				0	17
HEART VALVE	N. of tissue donations	157	0	367		10	0		0	3			0	0
	Tissue donation PMP	3.4	0.0	1.7		1.9	0.0		0.0	0.0			0.0	0.0
	N. of tissues retrieved	312	0	252		24	0		0	3			0	0
	N. of tissues transplanted		0	161		8	0		0	1			0	0
	N. of patients transplanted		0			8			0	1			0	0
	N. of transplant procedures		0	161		8	0		0	1			0	0
BLOOD VESSEL	N. of tissue donations		0			7	0		1				0	1
	Tissue donation PMP		0.0			1.3	0.0		0.1				0.0	0.3
	N. of tissues retrieved		0	0		51	0		1				0	1
	N. of tissues transplanted		0			6	0		0				0	1
	N. of patients transplanted		0			6			0				0	1
	N. of transplant procedures		0			6	0		0				0	1
MUSCULOSKELETAL	N. of tissue donations	919	0	1806		5	222		81	494			0	9
	Tissue donation PMP	20.0	0.0	8.4		1.0	19.6		4.5	3.8			0.0	2.6
	N. of tissues retrieved	2716	0	10328		15	222		54	484			0	22
	N. of tissues transplanted		0	10822		18	90		48				0	638
	N. of patients transplanted		0			18			37				0	136
	N. of transplant procedures		0	10822		18	90		37				0	140

PRELIMINARY DATA ON TISSUES - YEAR 2022

LATIN AMERICAN COUNTRIES

Country	Argentina	Bolivia	Brazil	Chile	Colombia	Costa Rica	Cuba	Dominican Republic	Ecuador	Mexico	Panama	Paraguay	Peru	Uruguay
<i>Population (Source: UNFPA, State of world population, 2022 - in millions)</i>														
	46.0	12.0	215.4	19.3	51.5	5.2	11.3	11.1	18.1	131.6	4.4	7.3	33.7	3.5
TYPE OF TISSUE	TYPE OF DATA													
PLACENTA	N. of tissue donations	0							5			28	0	56
	Tissue donation PMP	0.0							0.3			3.8	0.0	16.0
	N. of tissues retrieved	0							5			28	0	29
	N. of tissues transplanted	0				18			143			97	0	239
	N. of patients transplanted	0				18			102			97	0	70
	N. of transplant procedures	0				18			102			97	0	83
PANCREATIC TISSUE/ PANCREAS	N. of tissue donations	0					0		0				0	0
	Tissue donation PMP	0.0					0.0		0.0				0.0	0.0
	N. of tissues retrieved	0					0		0				0	0
	N. of tissues transplanted	0					0		0				0	0
	N. of patients transplanted	0					0		0				0	0
	N. of transplant procedures	0					0		0				0	0
ADIPOSE TISSUE	N. of tissue donations	0					0		0				0	0
	Tissue donation PMP	0.0					0.0		0.0				0.0	0.0
	N. of tissues retrieved	0					0		0				0	0
	N. of tissues transplanted	0					0		0				0	0
	N. of patients transplanted	0					0		0				0	0
	N. of transplant procedures	0					0		0				0	0
AUTOLOGOUS CRANIECTOMY PIECES	N. of tissues retrieved (units)	0					0		0				0	0
OTHER TISSUE	N. of tissue donations	0					0		0				0	0
	Tissue donation PMP	0.0					0.0		0.0				0.0	0.0
	N. of tissues retrieved	0					0		0				0	0
	N. of tissues transplanted	0					0		0				0	0
	N. of patients transplanted	0					0		0				0	0
	N. of transplant procedures	0					0		0				0	0

PRELIMINARY DATA ON HPC CELLS - YEAR 2022

EUROPEAN UNION COUNTRIES

Country	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy
Population (Source: UNFPA, State of world population, 2022 - in millions)	9.1	11.7	6.8	4.1	1.2	10.7	5.8	1.3	5.6	65.6	83.9	10.3	9.6	5.0	60.3

CATEGORY OF DATA

TYPE OF DATA

POTENTIAL FOR DONATION
AND SEARCHING IN THE
NATIONAL REGISTRIES

N. of potential donors at 31.12	61543	191454	148911	65108	369261	483406
N. of cord blood units at 31.12	3721	3253	8151	3325	38266	38698
N. of searches requested	326	27984	55372	28551	30238	3382
N. of unrelated donations	66	59	149	101	1267	1089

DONATIONS

N. of donations - Autologous	2899	579	938	86	248	3098	7852	307	2841
N. of donations - Allogenic	145	437	88	9	167	1172	9747	73	8106
N. of donations - Allogenic. related	37	37	9	26	66	945	965	72	803
N. of donations - Allogenic. unrelated	108	400	71	62	101	227	8782	1	7303

BANKING OF CORD BLOOD

N. of unrelated cord blood units collected	99	383	0	568	0	0	38266	6	1	6936
N. of unrelated cord blood units distributed	0	0	1	0	0	0	77	0	1	22
N. of related cord blood units collected	2762	6	1941	6	24	87	5681	123		
N. of related cord blood units distributed	0	0	1	0	0	0	0	0	2	

TRANSPLANTS

N. of transplants - Autologous	137	235	470	54	219	2325	4352	265	3443
N. of patients transplanted - Autologous	137	164	31	364	217	3810	212	2721	
N. of transplants - Allogenic	46	82	254	18	124	1988	3153	130	1927
N. of patients transplanted - Allogenic	46	77	238		124		3133	115	1814
N. of transplants - Allogenic. related	37	26	74	9	23	891	744	67	958
N. of patients transplanted - Allogenic. related	37	22	71		23		743	56	894
N. of transplants - Allogenic. unrelated	9	56	180	9	101	1097	2409	63	969
N. of patients transplanted - Allogenic. unrelated	9	55	167		101		2390	59	920

PRELIMINARY DATA ON HPC CELLS - YEAR 2022

Country	EUROPEAN UNION COUNTRIES												OTHER COUNTRIES			
	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	Moldova, Republic of	Norway	Switzerland	United Kingdom
Population (Source: UNEFA, State of world population, 2022 - in millions)	1.8	2.7	0.6	0.4	17.2	37.7	10.1	19	5.5	2.1	46.7	10.2	4.0	5.5	8.8	68.5
CATEGORY OF DATA	TYPE OF DATA															
POTENTIAL FOR DONATION AND SEARCHING IN THE NATIONAL REGISTRIES	N. of potential donors at 31.12															
	N. of cord blood units at 31.12															
	N. of searches requested															
	N. of unrelated donations															
DONATIONS	N. of donations - Autologous															
	N. of donations - Allogenic															
	N. of donations -Allogenic related															
	N. of donations - Allogenic, unrelated															
BANKING of CORD BLOOD	N. of unrelated cord blood units collected															
	N. of unrelated cord blood units distributed															
	N. of related cord blood units collected															
	N. of related cord blood units distributed															
TRANSPLANTS	N. of transplants - Autologous															
	N. of patients transplanted - Autologous															
	N. of transplants - Allogenic															
	N. of patients transplanted - Allogenic															
	N. of transplants - Allogenic, related															
	N. of patients transplanted - Allogenic, related															
	N. of transplants - Allogenic, unrelated															
	N. of patients transplanted - Allogenic, unrelated															

PRELIMINARY DATA ON HPC CELLS - YEAR 2022

LATIN AMERICAN COUNTRIES														
Country	Argentina	Bolivia	Brazil	Chile	Colombia	Costa Rica	Cuba	Dominican Republic	Ecuador	Mexico	Panama	Paraguay	Peru	Uruguay
Population (Source: UNFPA, State of world population, 2022 - in millions)														
	46.0	12.0	215.4	19.3	51.5	5.2	11.3	11.1	18.1	131.6	4.4	7.3	33.7	3.5
CATEGORY OF DATA														
TYPE OF DATA														
POTENTIAL FOR DONATION AND SEARCHING IN THE NATIONAL REGISTRIES														
	282149	0	5148212			0	0				1505		74261	1450
	4124	0	18244			0	0						0	
		0	1637			0	0						2	50
BANKING OF CORD BLOOD														
	4946	0	18517			0	0						0	
	1066	0	0			0	0						0	
TRANSPLANTS														
	777	2	1746			72	6				36	176		103
		2					6				36			103
	514	2	1232			15	6				11	137		31
	469	0	355			0	6				11			31
	374	2	873				6				11	137		24
	343	0					6				11			24
	140	0	359			15	0						0	7
	126	0	355				0							7

Council of Europe Reference Documents. Year 2022



Recommendation CM/Rec(2023)7 of the Committee of Ministers to member States on establishing national harmonised organ transplant registries with a view to facilitating international data sharing

(Adopted by the Committee of Ministers on 6 September 2023 at the 1473rd meeting of the Ministers' Deputies)

The Committee of Ministers, under the terms of Article 15.b of the Statute of the Council of Europe (ETS No. 1),

Considering that the aim of the Council of Europe is to achieve greater unity between its member States and that this aim may be pursued, inter alia, by the adoption of common action in the health field;

Bearing in mind the Convention for the Protection of Human Rights and Fundamental Freedoms (ETS No. 5)

Bearing in mind the European Social Charter (ETS No. 35) and its revised version (ETS No. 163), with specific attention to Article 11, which enshrines the right to protection of health, as interpreted by the European Committee of Social Charter;

Having regard to the Council of Europe Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine: Convention on Human Rights and Biomedicine (ETS No. 164), in particular to Articles 10 and 19, and the Additional Protocol to the Convention on Human Rights and Biomedicine concerning Transplantation of Organs and Tissues of Human Origin (ETS No. 186);

Having regard to the provisions of the Council of Europe Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data (ETS No. 108) and its Protocols, in particular the amending Protocol CETS No. 223, and convinced of the application of those principles to the processing of health-related data, as special categories of data;

Taking into account Resolution Res(78)29 of the Committee of Ministers to the governments of member States on harmonisation of legislation of member States relating to removal, grafting and transplantation of human substances and the final declaration of the 3rd Conference of European Health Ministers (Paris, 16- 17 November 1987);

Recalling Recommendation Rec(2004)7 of the Committee of Ministers to member States on organ trafficking;

Recalling Recommendation Rec(2006)15 of the Committee of Ministers to member States on the background, functions and responsibilities of a National Transplant Organisation (NTO);

Recalling Recommendation CM/Rec(2019)2 of the Committee of Ministers to member States on the protection of health-related data;

Recalling Recommendation CM/Rec(2020)4 of the Committee of Ministers to member States on the quality and safety of organs for transplantation;

Recalling Recommendation CM/Rec(2022)3 of the Committee of Ministers to member States on the development and optimisation of programmes for the donation of organs after the circulatory determination of death;

Recalling Resolution CM/Res(2013)55 on establishing procedures for the collection and dissemination of data on transplantation activities outside a domestic transplantation system;

Recalling Resolution CM/Res(2015)11 on establishing harmonised national living donor registries with a view to facilitating international data sharing and its Explanatory Memorandum;

Recalling Resolution CM/Res(2017)2 on establishing procedures for the management of patients having received an organ transplant abroad upon return to their home country to receive follow-up care;

Considering the latest available edition of the Council of Europe Guide to the quality and safety of organs for transplantation;

Considering the World Health Organization Guiding Principles on Human Cell, Tissue and Organ Transplantation, as endorsed by the 63rd World Health Assembly in May 2010 in Resolution WHA63.22, and in particular Guiding Principle number 10, stating the need to assess the long-term outcomes of cell, tissue and organ donation and transplantation for both living donors and recipients in order to document benefit and harm, and encouraging transplant programmes to participate in national and/or international transplant registries;

Considering Directive 2010/53/EU of the European Parliament and of the Council of 7 July 2010 on standards of quality and safety of human organs intended for transplantation;

Considering Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), and in particular Article 9, paragraph 2, points (a), (h) and (i), which contain provisions permitting the processing of health data;

Considering Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC;

Considering Resolution 77/236, adopted by the United Nations General Assembly on 15 December 2022, on strengthening and promoting effective measures and international co-operation on organ donation and transplantation to prevent and combat trafficking in persons for the purpose of organ removal and trafficking

in human organs, that urges member States to consider “Establishing and developing registries that include information regarding each organ recovery and transplantation procedure and outcomes for living donors and recipients of organs, as well as identification systems that facilitate tracing each organ from donor to recipient and vice versa, with the purpose of ensuring the transparency of practices and the quality and safety of human organs, with due regard to professional confidentiality and personal data protection”;

Considering the Declaration of Istanbul on Organ Trafficking and Transplant Tourism, adopted in 2008, and updated in 2018;

Considering that, while data on organ donation and transplant activities in member States are readily available and published annually by the Council of Europe, data on specific recipient and donor variables and transplant outcomes are lacking in many countries;

Aware that transplant registries, which should systematically collect short-, medium- and long-term outcomes of transplant recipients and include donor and recipient confounding factors, are important in order to gain knowledge about transplantation practices;

Considering that gaining this knowledge is required to: i) ensure the highest possible protection of transplant recipients and the timely identification of associated risk factors, so that adverse occurrences can be addressed adequately and prevented in the future; ii) support evidence-based decision-making regarding treatment choices; iii) enable recommendations regarding tailored treatments for patients with specific comorbidities and risk factors; and iv) facilitate evidence-based research related to transplantation practices, outcomes and quality assurance;

Considering also that in-depth knowledge about transplantation, its applications, impact and outcomes is an essential prerequisite for balanced decision-making and informed consent by patients on the waiting list and transplant recipients;

Taking into account that transplant registries are valuable at a national level to: i) evaluate the quality and safety of healthcare related to organ donation and transplantation; ii) develop allocation schemes as well as preventive strategies and health policies; iii) help optimise the use of scarce organs as well as the overall benefits of organ transplantation, primarily reflected in patient survival rates and quality of life and; iv) provide good quality and cost-effective healthcare;

Considering that donation and transplantation registries should meet privacy requirements, as regulated by each country's data protection legislation and Council of Europe standards;

Considering that combining data from various national registries would allow knowledge and experience regarding different treatment options and outcomes to be shared at international level, enable a faster accumulation of data to identify the absolute risk and the risk factors, facilitate further improvement of donation and transplantation across Europe, promote research into donation and transplantation that is based on high-quality data and support the alignment of healthcare throughout Council of Europe member States and beyond,

1. Recommends that the governments of member States promote the development and maintenance of national transplant registries, according to the general principles presented in Appendix 1 to this Recommendation and taking into consideration the list of parameters shown in Appendix 2 to this Recommendation, with a view to facilitating harmonisation of the said registries and international data sharing;
2. Authorises the Council of Europe European Committee on Organ Transplantation or, if necessary, its subordinate body, to revise the appendices of this Recommendation in the future in keeping with developments in the field.

Appendix 1 to Recommendation CM/Rec(2023)7

General principles on establishing national harmonised organ transplant registries with a view to facilitating international data sharing

With the aim of facilitating and harmonising the collection of baseline and follow-up data on transplant recipients, this appendix provides the characteristics and general guidelines for the construction of a national registry. These are:

1. Health authorities should be in charge of developing and maintaining transplant registries at a national level, in close co-operation with the relevant scientific societies. This should not preclude the possibility of officially delegating this task to other organisations.
2. The procedures and infrastructure of transplant registries within Europe should be designed in such a way that international data sharing is feasible, taking into account the following:

- i. there should be separate sections for kidney, liver, pancreas, heart and lung transplant recipients. The registry needs to have the flexibility to accommodate new sections related to specific areas of interest;
 - ii. variables should be defined and standardised.
3. Transplant registries should contain the following donor and recipient information:
 - i. donor and recipient demographic information;
 - ii. pre-donation donor data;
 - iii. peri- and post-operative recipient data;
 - iv. follow-up recipient data.
 4. Follow-up duration/intervals:
 - i. long-term follow-up (preferably lifelong) is essential to obtain comprehensive data and for the security of transplant recipients;
 - ii. transplantation centres should provide and guarantee proper donor and recipient follow-up as part of the authorisation requirements;
 - iii. owing to restrictive capacity or national regulations, mandatory follow-up data collection may have to be limited to a specified timeframe.
 5. Data security/legislation:
 - i. national and international data protection rules must be adhered to. Overall data security has to be attained and assured in the country hosting the registry;
 - ii. owing to more restrictive data security legislation in recent years, additional measures are required in most countries, e.g. informed consent for storage of personal donor data and separate, national permission for this kind of storage (according to national legislation).
 6. Access/publication of data:
 - i. each transplant centre should have full access to all data pertaining to its own donors and recipients;
 - ii. simple, unidentifiable, summary reports on all recipients in the transplant registries should be made publicly available and presented in annual reports;

- iii. more extensive analyses, intended for publication, should be regulated by predefined protocols.

Appendix 2 to Recommendation CM/Rec(2023)7

Establishing national harmonised organ transplant registries with a view to facilitating international data sharing

This appendix, containing the three datasets detailed below, provides a detailed list of parameters that can be taken into consideration for inclusion in any national transplant registry:

1. European Kidney Recipient Registry (EKRR) Variables, as developed during the EDITH (Pilot Project [PP-1-2016] on chronic kidney disease), which received funding from the European Union.

EKRR Dataset (D6.3/.4/.5)

Responsible partner: ET

Document: EKRR dataset from 29.01.2020

X.1. Donor variables

NR referring to EFRETOS or New field	short_name	Variable name	Definition	Unit or coding	Allowed values
D1.1:ER	d_id	Donor ER ID	ER ID code, could be the same as used in the National or Regional registry in combination with a country code (ISO code) of the country that delivers the data or	String	example NL-000001
D1.2	d_gender_birth	Donor Gender at birth	Donor's gender at birth	Coded list	- Male - Female - Unknown
D1.3	d_blood_group	Donor Blood Group	Donor's blood group	ET_ABO	ABABO
	d_rhesus Donor	Donor Rhesus	Donor Rhesus	terminology ET_RHESUS	- Positive - Negative
D1.4	d_height	Donor Height	Donor's body height	decimal (3.2)	
	d_height_unit	Donor Height unit		unit	- Cm - in_i (inch)
D1.5	d_weight	Donor Weight	Donor's body weight	weight decimal (3.2)	
	d_weight_unit	Donor Weight unit		unit	- kg - lb_av (pound)

NR referring to EFRETOS or New field	short_name	Variable name	Definition	Unit or coding	Allowed values
D1.6	d_age	Donor Age in Years at Organ Donation	Donor age in years at time of organ donation. For children under the age of two, the value will be recorded with an exact first decimal. For all other ages, it will be recorded with "0" as the first decimal.	Duration ISO 8601	Years and months
		Donor Cause of Death - coded system		not implemented as pilot is for KI	
D1.7		Donor Cause of Death	Two separate fields: one for coding system used and one for the respective death code	not implemented as pilot is for KI	
D1.8	d_cause_of_death_unified	Unified Cause of Death	For kidney and pancreas: ICD- 10.	terminology ICD-10	
D1.10	d_type	Donor Type	Type of donor	coded list	- DCD - DBD - Living
D1.11	d_malignant_tumour	Malignant tumours in the	Evidence for malignant tumours	coded list	Evidence for malignant
D1.11	d_malignant_tumour_absence		No information available about malignant tumours	coded list	No information available about malignant tumours
D1.11	d_malignant_tumour_exclusion		No evidence for malignant tumours	coded list	No evidence for malignant
D1.12 (D3.24)	d_hla_code	Donor HLA - typing A-B-DR (1-2)	One string only A1, A2, B1, B2, DR1, DR2 either or split is possible	Terminology HLA_nomenclature_2010	
	d_hla_locus	Donor HLA Locus	Locus e.g. HLA-A, HLA-B	Terminology HLA_nomenclature_2010	

NR referring to EFRETOS or New field	short_name	Variable name	Definition	Unit or coding	Allowed values
New	d_medication_name, d_medication_ever_used	Donor past history of hypertension	Was the donor treated with anti- hypertension drugs?	Medication name (string): Medication_ever_used (boolean):	Anti-hypertension drugs • True • False
New	d_creat_mass_volume d_creat_moles_volume	Donor Creatinine at time of	Donor creatinine at time of offer/retrieval	decimal (3.2)	
	d_creat_mass_volume_unit d_creat_moles_volume_unit	Donor creatinine unit		unit	• Umol/l • mmol/dl • mg/dl
D.2.2	d_cmv_igg	Anti-CMV	IgG	Positive if there is a CMV IgG titre higher than 2, Non-Reactive, Unknown	Reactive, Non-Reactive, Unknown
D2.4	d_hiv_ab	HIV (I/II)	Antibodies against Human Immunodeficiency virus, subtype 1 or 2	Reactive (= if IgG>2), Non-Reactive, Unknown	Reactive, Non-Reactive, Unknown
D2.8	d_hcv_ab	HCV Ab*	Antibodies against hepatitis C virus	Reactive (= if IgG>2), Non-Reactive,	Reactive, Non-Reactive, Unknown
D3.33	d_diabetes_type	Diabetes	Was the donor diabetic? And what type?	Terminology ICD_10_diabetes	
D3.33	d_diabetes_absence		No information available about diabetes	coded list	• No information available about diabetes
D3.33	d_diabetes_exclusion		Patient is not diabetic	coded list	• Patient is not diabetic

X.2. Recipient variables

NR referring to EFRETOS or New field	short_name	Variable name	Definition	Unit or coding	Allowed values
NEW: ER	r_id	Recipient ER ID	ER ID code, could be the same as used in the National or Regional registry in combination with a country code (ISO code) of the country that delivers the data or determined by Consortium	String	example NL-000001
R1.1	r_gender (from demographics)	Recipient Gender at birth	Patient's gender at birth	Male, Female, Unknown	• Male • Female • Unknown
R1.2	r_blood_group	Recipient ABO Blood Group	Patient's blood group type	Terminology ET_ABO	• A • B • AB • O
	r_rhesus	Donor Rhesus	Donor Rhesus	terminology ET_RHESUS	• Positive • Negative
R1.3	r_prim_diag_local	Primary Diagnosis	All codings from national registries are stored: one variable describing which coding system (see derived variables) is used and one with the national coding	string	
R1.4: ER	r_age_at_listing	Recipient age at listing in years	Number of years between date of listing and date of	Duration ISO 8601	Years and months
R1.5	r_prim_diag_unified	Unified Primary Diagnosis	For kidney and pancreas: ICD- 10	terminology ICD-10	ICD-10
R1.9:ER	r_dial_age_at_first r_dial_age_at_first_unit	Age in years at start of first dialysis	The age the recipient had reached being put on dialysis for the first time, before his first transplantation. For second and third transplantation, this variable is not entered	decimal (3.1)	unit: yr

NR referring to EFRETOS or New field	short_name	Variable name	Definition	Unit or coding	Allowed values
NEW	r_dial_time_from_first	Time from first dialysis to waiting list	Number of days between date first dialysis and date of waiting list	Duration ISO 8601	days
T1.19 (T3.22)	r_hla_code	Recipient's HLA - typing A-B-DR (1-2) antigen	One string only A1, A2, B1, B2, DR1, DR2 either or split is possible	Terminology HLA_nomenclature_2010	
	r_hla_locus	Donor HLA Locus	Locus e.g. HLA-A, HLA-B	Terminology HLA_nomenclature_2010	
R2.1	r_hiv_ab	HIV (I/II) Ab*	Reactive (= if IgG>2), Non- Reactive, Unknown	coded list	• Reactive • Non-reactive • Unknown
R2.5	r_hcv_ab	HCV Ab	Reactive (= if IgG>2), Non- Reactive, Unknown	coded list	• Reactive • Non-reactive • Unknown
New	r_hbv	HBV	Reactive (= if IgG>2), Non- Reactive, Unknown	coded list	• Reactive • Non-reactive • Unknown
New	r_cmv_igg	CMV	Reactive (= if IgG>2), Non- Reactive, Unknown	coded list	• Reactive • Non-reactive • Unknown
New	r_dial_tech	Dialysis type	The type of last dialysis used Haemodialysis (HD) Peritoneal (PD)	coded list	• HD • PD
New	r_sensitised	Sensitisation before first transplantation		Boolean	• True • False
	r_current_pra_technique	Technique for determining antibodies on which PRA is based			• Luminex • ELISA • DTT • CD • COther

NR referring to EFRETOS or New field	short_name	Variable name	Definition	Unit or coding	Allowed values
	r_current_pra r_current_pra_unit	Current PRA (=last value known before transplantation)		Integer / unit	0-100%
	r_highest_pra_technique	Technique for determining antibodies on which PRA is			• Luminex • ELISA • DTT • CDC • Other
	r_highest_pra r_highest_pra_unit	highest PRA(=last value known before transplantation)			

X.3. Transplantation variables

NR referring to EFRETOS or New field	short_name	Variable name	Definition	Unit or coding	Allowed values
T1.1:ER	tx_id	Transplant ER Number ID	ER ID code, could be the same as used in the National or Regional registry in combination with a country code (ISO code) of the country that delivers the data or	string	example NL-000001
NEW	d_gender_birth	Donor Gender at birth	Donor's gender at birth	Coded list	• Male • Female • Unknown

NR referring to EFRETOS or New field	short_name	Variable name	Definition	Unit or coding	Allowed values
NEW	d_id	Donor ID	ER ID code, could be the same as used in the National or Regional registry in combination with a country code (ISO code) that delivers the data or determined by Consortium	string	example NL-000001
T1.2:ER	r_age_at_transplant	Age in years at transplant	the number of years and months between date of transplant and date of birth	Duration ISO 8601	years and months
NEW	tx_time_dialysis_and_transplant	Time from first dialysis to transplant	the number of days between date of first dialysis and date of transplant	Duration ISO 8601	days
New	tx_date	Year of transplant		Partial date (Year)	
T1.3	country (from demographics)	Country	Country where recipient is registered as recipient at time of transplant	ISO code 3166	
New	tx_centre_id	Centre code	National ISO code combined with National	string	example NL-001
New	tx_pre_emptive_transplant	Preemptive transplantation	Was the patient preemptively transplanted?	coded list	• Yes • No
New	tx_number_previous_kidney	Number of previous kidney transplants	How many kidney transplant did the patient have before this transplantation	integer	
T1.7	tx_cold_ischemia_time	Total Ischaemic TimeHOURS	Time elapsed between the time of clamping of the aorta and the time of declamping. For DCD: time elapsed between circulatory arrest and the time of declamping	Duration ISO 8601	hours and minutes

NR referring to EFRETOS or New field	short_name	Variable name	Definition	Unit or coding	Allowed values
T2.11	tx_graft	Type of transplant	Multiple grafts can be added. two rows for LKi plus RKi transplant or two or more for a multi-organ transplant. Alternatively enter only kidney here and use the multi_organ_transplant checkbox to indicate multiple organs were used. LKi, Left Kidney RKi, Right Kidney BKl, Kidney en Bloc WLiv, Whole Liver LLSLiv, Left Lateral Segment ERLLiv, Extended Right Lobe RLLiv, Right Lobe LLLiv, Left Lobe LLiv, Left Split Liver RLiv, Right Split Liver He, Heart BLu, Both Lungs LLu, Left Lung RLu, Right Lung Pa, Pancreas In, Intestine Ut, Uterus Eso, Oesophagus Sm, Stomach Col, Large intestine (Colon) VCA, Vascularised composite allograft	Terminology graft_v1	• LKi • RKi • BKl • WLiv • LLSLiv • ERLLiv • RLLiv • LLLiv • LLiv • RLiv • He • BLu • LLu • RLu • Pa • In • Ut • Eso • Col • VCA

NR referring to EFRETOS or New field	short_name	Variable name	Definition	Unit or coding	Allowed values
New and Tier 2 or 3 data fields that would be advisable	tx_graft_id	Graft ID	National ISO code combined with National graft ID. Only applicable if grafts get their own IDs.		
New	tx_multi_organ_transplant	Was the kidney transplanted part of a multi- organ	Multi-organ, kidney(s) plus any other organ as defined in graft	Boolean	TrueFalse
	tx_sequence	Sequence of this transplant within the year of transplant	Starting with 1 for first transplant within the transplant year. Can be left empty if transplant_id is a sequential	Integer	
T1.4	htx_id	Historic: Transplant ID	Specification of previous transplant(s). For each of the previous transplants the specification will be required. Multiple historic transplants can be stored. Historic transplants are transplants not registered within the EDITH database. ER ID code, could be the same as used in the National or Regional registry in combination with a country code (ISO code) of the country that delivers the data	string	example NL-000001
	htx_multi_organ_transplant	Historic: Was the kidney transplanted part of a multi- organ	Multi-organ, kidney(s) plus any other graft organ as defined in graft	Boolean	TrueFalse
	htx_centre_id	Historic: Centre code	National ISO code combined with National	string	example NL-001

NR referring to EFRETOS or New field	short_name	Variable name	Definition	Unit or coding	Allowed values
	htx_graft	Historic: Type of	Multiple grafts can be added. two rows for LKi plus RKi transplant or two or more for a multi-organ transplant. Alternatively enter only kidney here and use the multi_organ_transplant checkbox to indicate multiple organs were used. LKi, Left Kidney RKi, Right Kidney BKl, Kidney en Bloc WLiv, Whole Liver LLSLiv, Left Lateral Segment ERLLiv, Extended Right Lobe RLLiv, Right Lobe LLLiv, Left Lobe LLiv, Left Split Liver RLiv, Right Split Liver He, Heart BLu, Both Lungs LLu, Left Lung RLu, Right Lung Pa, Pancreas In, Intestine Ut, Uterus Eso, Oesophagus Sm, Stomach Col, Large intestine (Colon) VCA, Vascularised composite allograft	Terminology graft_v1	• LKi • RKi • BKl • WLiv • LLSLiv • ERLLiv • RLLiv • LLLiv • LLiv • RLiv • He • BLu • LLu • RLu • Pa • In • Ut • Eso • Sm • Col • VCA

NR referring to EFRETOS or New field	short_name	Variable name	Definition	Unit or coding	Allowed values
	htx_graft_id	Historic: Graft ID	National ISO code combined with National graft ID. Only applicable if grafts get their own IDs.		
	htx_sequence	Sequence of this transplant within the year of transplant	Starting with 1 for first transplant within the transplant year. Can be left empty if transplant_id is a sequential	integer	

X.4. Follow-up variables

NR referring to EFRETOS or New field	short_name	Variable name	Definition	Unit or coding	Allowed values
F1.1: ER	r_id	Recipient ER ID	ER ID code, could be the same as used in the National or Regional registry in combination with a country code (ISO code) of the country that delivers the data	Alphanumeric code	example NL-000001
	tx_id	Transplant ER Number ID	or determined by Consortium ER ID code, could be the same as used in the National or Regional registry in combination with a country code (ISO code) of the country that delivers the data or determined by Consortium	string	example NL-000001

NR referring to EFRETOS or New field	short_name	Variable name	Definition	Unit or coding	Allowed values
T2.11	fup_graft	Type of transplant	Multiple grafts can be added. two rows for LKi plus RKi transplant or two or more for a multi-organ transplant. Alternatively enter only kidney here and use the multi_organ_transplant checkbox to indicate multiple organs were used. LKi, Left Kidney RKi, Right Kidney BKl, Kidney en Bloc WLiv, Whole Liver LLSLiv, Left Lateral Segment ERLLiv, Extended Right Lobe RLLiv, Right Lobe LLLiv, Left Lobe LLiv, Left Split Liver RLiv, Right Split Liver He, Heart BLu, Both Lungs LLu, Left Lung RLu, Right Lung Pa, Pancreas In, Intestine Ut, Uterus Eso, Oesophagus Sm, Stomach Col, Large intestine (Colon) VCA, Vascularised composite allograft	Terminology graft_v1	• LKi • RKi • BKi • WLiv • LLSLiv • ERLLiv • RLLiv • LLLiv • LLiv • RLiv • He • BLu • LLu • RLu • Pa • Ut • Eso • Sm • Col • VCA

NR referring to EFRETOS or New field	short_name	Variable name	Definition	Unit or coding	Allowed values
New and Tier 2 or 3 data fields that would be advisable	fup_graft_id	Graft ID	National ISO code combined with National graft ID. Only applicable if grafts get their own IDs.	string	example NL-000001
	fup_status	Follow-up event for which the follow-up is	• Patient deceased • In follow-up (normal follow-up) • Lost to follow-up • Graft failed	coded list	• Patient deceased • In follow-up • Lost to follow-up • Graft failed
F1.3, F1.6 and NEW	fup_days_since_transplant	Time (Number of days) between transplantation and follow-up	Time (number of days) between transplantation and the date that the recipient was last seen alive	Duration ISO 8601	days
F1.4	fup_cause_of_graft_failure_local	Primary Cause of Graft failure		string	
	fup_cause_of_graft_failure_unified	Unified Primary Cause of Graft failure	ICD-10	Terminology ICD-10	ICD-10
F1.7	fup_cause_of_death_local	Cause of Death	All coding systems are allowed	Death cause code	
F1.8	fup_cause_of_death_unified	Unified Cause of Death	For kidney and pancreas: ICD- 10	Terminology ICD-10	ICD-10
F1.9	fup_creat_mass_volume fup_creat_moles_volume	Serum creatinine at		decimal (3.2)	
	fup_creat_mass_volume_unit fup_creat_moles_volume_unit	Unit of Creatinine at data last seen		unit	• Umol/l • mmol/dl • mg/dl

European Liver Transplant Registry Variables - ELTR

Centre identification	Code number
Patient identification	
Patient code in centre	alphanumeric
OSO patient No	alphanumeric
Family name	3 first letters
Given name	3 first letters
Recipient date of birth	dd/mm/yyyy
Recipient gender	F/M
Recipient blood group	A/B/AB/O
Inscription/LT indication/Pre-LT check-up	
OSO LT No	alphanumeric
Transplantation in another centre	YES/NO
If yes, other centre name	text
Date of inscription in WL	dd/mm/yyyy
Recipient weight	kg
Recipient height	cm
Dialysis twice in the week prior creatinine test	YES/NO
Creatinine	micromol/l or mg/dl
Bilirubin	micromol/l or mg/dl
INR	IU
MELD declared	number
Serum sodium	mmol/l
Serum albumin	g/l
Clinical ascites	0=none, 1=controlled with medication, 2=refractory (poorly controlled)
Encephalopathy	0=none, 1=grade I-II (controlled with medication), 2=grade III-IV (refractory)
Recipient HBsAg	NEG/POS
Recipient HBV DNA	NEG/POS
Recipient B Delta	NEG/POS
Recipient Anti HCV	NEG/POS
Recipient HCV RNA	NEG/POS
Recipient HIV	NEG/POS
Indication	1=acute liver disease, 2=chronic liver disease, 3=tumours, 4=metabolic disease
Primary disease (list disease) or cause of graft loss (list cause of death or reLT)	list disease
Secondary disease (list disease) or cause of graft loss (list cause of death or reLT)	list disease
Other disease, specify	text
UNOS status	1=intensive care unit-bound, 2=continuous hospitalisation, 3=continuous medical care, 4=at home with normal function

Hepatocellular carcinoma (pathology data)	
Time of diagnosis	1=Before LT, 2=After LT (at pathology)
Non-tumoral liver status	1=Cirrhosis (Metavir F4), 2=Fibrosis (Metavir F1-F3), 3=Normal (Metavir F0)
Cumulative pre-LT treatment	list HCC treatments
Number of nodules	number
Main size of nodules	mm
Vascular invasion	0=No, 1=Macro, 2=Micro
Portal tumoral thrombosis	YES/NO
21	CM/Rec(2023)7

LT technical aspects	
Date of LT	dd/mm/yyyy
Urgency	YES/NO
Type1 of graft	1=full size, 2=reduced, 3=split, 4=split "in situ", 5=split "ex situ", 6=living
Type2 of graft	1=left lobe (segment 2+3), 2=left liver (segment 2+3+4), 3=right liver (segment 5+6+7+8), 4=other
Site of LT	1=orthotopic, 2=heterotopic
Type of LT	1=auxiliary, 2=non-auxiliary
Bypass	1=extracorporeal bypass, 2=lateral clamping of the vena cava, 3=neither EC nor VCP
Total ischaemia time	minutes
Preservation liquid	1=Collins, 2=UW, 3=Belzer, 4=Marshall, 5=HRK, 6=Celsior, 7=Custodioli, 8=IGL, 9=Perfadex, 10=Ringer, 11=SCOT, 12=other
Associated transplantation	1=kidney, 2=lung, 3=small bowel, 4=bone marrow, 5=heart, 6=pancreas, 7=Langerhans islets, 8=clusters, 9=other
Post reperfusion biopsy	YES/NO

Donor / Graft	
Donor date of birth	dd/mm/yyyy
Donor gender	F/M
Donor blood group	A/B/AB/O
Country of liver procurement	1=same country, 2=other country
Group matching	1=isogroup, 2=incompatible, 3=compatible
Donor weight	kg
Donor height	cm
Type of donor	1=DBD, 2=DCD, 3=domino, 4=living
Cadaveric donor cause of death	list CD cause of death
Graft weight	g
Macrovesicular steatosis	1=none, 2=mild (<30%), 3=moderate (30%-60%), 4=severe (>60%)
Microvesicular steatosis	1=none, 2=mild (<30%), 3=moderate (30%-60%), 4=severe (>60%)
Overall steatosis rate, if type non- specified	1=none, 2=mild (<30%), 3=moderate (30%-60%), 4=severe (>60%)

Living donor	
Donor relation	list LD relations
Early complications	list LD early complications
Treatment of complication	1=medical, 2=interventional (percutaneous drainage...), 3=reoperation, 4=other
Min PT within 15 days following LT	%
Max INR within 15 days following LT	IU
Max bilirubin within 15 days following LT	micromol/l or mg/dl
Last donor outcome	1=alive without reoperation, 2=alive with reoperation, 3=alive with transplantation, 4=dead
Last donor outcome date	dd/mm/yyyy
Cause of death of living donor	text

Post-LT induction immunosuppression	
	list immunosuppression

Recipient outcome	
	1=alive, 0=dead
Recipient outcome date	dd/mm/yyyy
Status of graft if patient dead	1=died with functioning graft, 2=died with chronic dysfunctioning graft
Main cause of death	list cause of death or reLT
Second cause of death	list cause of death or reLT
Third cause of death	list cause of death or reLT
If other cause, specify	text

FU-immunosuppression	
Date of update	dd/mm/yyyy
Any change since last update?	YES/NO
If yes, date of change	dd/mm/yyyy
Reason of change	list reason change immunosuppression
If other reason, specify	text
Current immunosuppression	list immunosuppression

DISEASE

A1: Acute hepatic failure-Fulminant or Subfulm hepatitis-Virus A

A2 : Acute hepatic failure-Fulminant or Subfulm hepatitis-Virus B

A3 : Acute hepatic failure-Fulminant or Subfulm hepatitis-Virus C

A4: Acute hepatic failure-Fulminant or Subfulm hepatitis-Virus D

A5: Acute hepatic failure-Fulminant or Subfulm hepatitis-Other known

A6: Acute hepatic failure-Fulminant or Subfulm hepatitis-Other unknown

A7: Acute hepatic failure-Fulminant or Subfulm hepatitis-Paracetamol

A8: Acute hepatic failure-Fulm or Subfulm hep-Other drug related, specify

A9: Acute hepatic failure-Fulminant or Subfulm hepatitis-Toxic (non-drug)

A91: Acute hepatic failure-Fulminant or Subfulm hepatitis-Heat shock

A10: Acute hepatic failure-Post-operative

A11: Acute hepatic failure-Post-traumatic

A12: Acute hepatic failure-Others, specify

A13: Subacute hepatitis-Virus A

A14: Subacute hepatitis-Virus B

A15: Subacute hepatitis-Virus C

A16: Subacute hepatitis-Virus D

A17: Subacute hepatitis-Other known

A18: Subacute hepatitis-Other unknown

A19: Subacute hepatitis-Paracetamol

A20: Subacute hepatitis-Other drug-related, specify

A21: Subacute hepatitis-Toxic (non-drug)

B1: Cholestatic disease-Secondary biliary cirrhosis

B2: Cholestatic disease-Primary biliary cirrhosis

B3: Cholestatic disease-Primary sclerosing cholangitis

B4: Cholestatic disease-Others, specify

C1 : Congenital biliary disease-Caroli disease

C2: Congenital biliary disease-Extrahepatic biliary atresia

C4 : Congenital biliary disease-Congenital biliary fibrosis

C5 : Congenital biliary disease-Choledocal cyst

C6: Congenital biliary disease-Alagille syndrome

C7: Congenital biliary disease-Others, specify

D1: Cirrhosis-Alcoholic cirrhosis

D2: Cirrhosis-Autoimmune Cirrhosis

D3 : Cirrhosis-Virus B-related cirrhosis

D4 : Cirrhosis-Virus C-related cirrhosis

D5 : Cirrhosis-Virus BD-related cirrhosis

D6: Cirrhosis-Virus BC-related cirrhosis

D7: Cirrhosis-Virus BCD-related cirrhosis

D71: Cirrhosis-Combined virus C and alcoholic cirrhosis

D72: Cirrhosis-Combined virus B and alcoholic cirrhosis

D73: Cirrhosis-Virus E-related cirrhosis

D8: Cirrhosis-Virus-related cirrhosis-Other viruses, specify

DISEASE (cont.)

D9: Cirrhosis-Post-hepatic cirrhosis-Drug-related

D10: Cirrhosis-Other cirrhosis, specify

D11: Cirrhosis-Cryptogenic (unknown) cirrhosis

E1 : Cancers-Hepatocellular carcinoma and cirrhosis

E2: Cancers-Hepatocellular carcinoma and non-cirrhotic liver

E3 : Cancers-Hepatocellular carcinoma-Fibrolamellar

E4: Cancers-Biliary tract carcinoma (Klatskin)

E5 : Cancers-Hepatic cholangiocellular carcinoma

E6 : Cancers-Hepatoblastoma

E7 : Cancers-Epithelioid hemangioendothelioma

E8 : Cancers-Angiosarcoma

E9 : Cancers-Secondary liver tumours-Carcinoid

E10 : Cancers-Secondary liver tumours-Other neuroendocrine

E11 : Cancers-Secondary liver tumours-Colorectal

E12 : Cancers-Secondary liver tumours-GI non colorectal

E13 : Cancers-Secondary liver tumours-Non-gastrointestinal

E14: Cancers-Other liver malignancies, specify

F1 : Metabolic diseases-Wilson disease

F2: Metabolic diseases-Haemochromatosis

F3 : Metabolic dis-Alpha-1-antitrypsin deficiency

F4 : Metabolic diseases-Glycogen storage disease

F5 : Metabolic dis-Homozygous Hypercholesterolaemia

F6 : Metabolic diseases-Tyrosinaemia

F7 : Metabolic diseases-Familial amyloid polyneuropathy

F8 : Metabolic diseases-Primary hyperoxaluria

F9 : Metabolic diseases-Protoporphyrin

F91: Metabolic diseases-NASH

F10 : Metabolic diseases-Other porphyria

F11 : Metabolic diseases-Crigler-Najjar

F12 : Metabolic diseases-Cystic fibrosis

F13 : Metabolic diseases-Byler disease

F14 : Metabolic diseases-Others

G: Budd-Chiari

H1: Benign liver tumours or polycystic dis-Hepatic adenoma

H2: Benign liver tumours or polycystic dis-Adenomatosis

H3: Benign liver tumours or polycystic dis-Haemangioma

H4: Benign liver tumours or polycystic dis-Focal nodular hyperplasia

H5: Benign liver tumours or polycystic dis-Polycystic disease

H6: Benign liver tumours or polycystic dis-Nodular regenerative hyperplasia

H7: Benign liver tumours or polycystic dis-Other benign tumors, specify

I1: Parasitic disease-Schistosomiasis (Bilharzia)

I2: Parasitic disease-Alveolar echinococcosis

I3: Parasitic disease-Cystic hydatidosis

DISEASE (cont.)

I3: Parasitic disease-Cystic hydatidosis

I4: Parasitic disease-Others, specify

J: Other liver diseases

J1 : Human immunodeficiency virus (HIV)

K: Not available

L: Total Parenteral Nutrition (TPN)-induced cholestasis

M : Hepatopulmonary syndrome

N : Microangiopathy

O: Small-for-size syndrome

CAUSE OF DEATH OR reLT

A1: Intraoperative death (death on the table)

B1: Infection-Bacterial infection

B2: Infection-Viral infection

B3: Infection-HIV

B4: Infection-Fungal infection

B5: Infection-Parasitic infection

B6: Infection-Other known infect, specify

C1 : Liver complications-Acute rejection

C2: Liver complications-Chronic rejection

C3: Liver complications-Arterial thrombosis

C4: Liver complic-Hepatic vein thrombosis

C41: Liver complic-Early portal vein thrombosis

C42: Liver complic-Outflow impairment

C5: Liver complic-Primary N-function (Retx or death ≤ 7 d)C6: Liv complic-Primary dysfunction (Retx or death > 7 d)

C61 : Liv complic-Small-for-size syndrome

C7 : Liver complic-Anastomotic biliary complic

C8 : Liver complic-Non-anastomotic biliary complic

C9: Liver complic-Recurrence of initial dis-Virus B

C10 : Liv complic-Recurrence of initial dis-Virus C

C11 : Liv complic-Recurrence of initial dis-Virus D

C12 : Liv complic-Recurrence of initial dis-Alcoholic

C13 : Liv complic-Recurrence of initial dis-PBC

C14 : Liv complic-Recurrence of initial dis-PSC

C15 : Liv complic-Recurrence of initial dis-Autoimmune

C16 : Liv complic-Recurrence of initial dis-Budd-Chiari

C17 : Liv complic-Recur of init dis-Other non-tumoral, specify

C18 : Liver complic-De novo hepatitis B virus

C19 : Liver complications-De novo hepatitis C virus

C20 : Liver complications-De novo hepatitis D virus

C21: Liver complic-Massive haemorrhagic necrosis

C22: Liver complications-Other viral hepatitis

CAUSE OF DEATH OR reLT (cont.)
C23: Liver complications-Infection
C24: Liver complications-Others, specify
D1: Gastrointestinal complications-GI haemorrhage
D2: Gastrointestinal complications-Pancreatitis
D3 : Gastrointestinal complic-Visceral perforation
D4: Gastrointestinal complications-Others, specify
E1: Cardiovascular complications-Myocardial infarction
E2: Cardiovascular complications-Others, specify
F1 : Cerebrovascular complications-Intracranial haemorrhage
F2: Cerebrovascular complications-Ischaemic stroke
F3 : Cerebrovascular complications-Cerebral oedema
F4 : Cerebrovascular complications-Cerebral infection
G1: Tumour-Recurrence of initial tumour
G2: Tumour-Recurrence of previously unrelated tumour
G3: Tumour-De novo solid organ tumour, specify
G4: Tumour-Donor transmitted tumour
G5: Tumour- Lymphoproliferative disease
H1: Kidney failure
H2: Urinary tract infection
I1: Pulmonary complications-Embolism
I2: Pulmonary complications-Infection
J1 : Social complic-Non-compliance with immunosup therapy
J2 : Social complications-Suicide
J3 : Social complications-Trauma (motor, vehicle,..)
K1 : Bone marrow depression
L1: Other cause, specify
M1: Not available
N1: Neurological complication, specify

list HCC treatment
NO: None
CE : Chemoembolisation (TACE)
RE: Resection
RF: Radiofrequency
AL: Alcohol
CR: Cryotherapy
RT: Radiotherapy
SO: Sorafenib
RS: Radioembolisation
OT: Other

list CD cause death

DR: Drowning
DI: Drug intoxication
AS: Asphyxiation
CA: Cardiovascular
EL: Electrical
GU: Gunshot wound
ST: Stab
BI: Blunt injury
SD: Sudden infant death
IC: Intracranial Haemorrhage / Stroke
OT: Others

list LD relation

MF: Mother/Father
SD: Son/Daughter
GP: Grandparent
HS: Husband/Spouse
BS: Brother/Sister
OT: Others

list LD early complication

NO: No major complication
PE: Pulmonary embolism
BF: Biliary fistula
BS: Biliary stenosis
AT: Arterial thrombosis
PT: Portal thrombosis
PH: Phlebitis
BL: Bleeding
LI: Liver insufficiency
SS: Small-for-size syndrome
WI: Wound infection
IF: Infection (not wound)
IC: Infected collection
NC: Non-infected collection
PE: Pleural effusion
OT: Others

list immunosuppression

- | |
|--------------------------------|
| 1 Tacrolimus, non Advagraf |
| 2 Advagraf |
| 3 Tacrolimus, unprecised |
| 4 Neoral |
| 5 Steroids oral |
| 6 Steroids IV |
| 7 Azathioprine |
| 8 Certican |
| 9 Sirolimus |
| 10 Ciclosporin (Sandimum) oral |
| 11 Ciclosporin (Sandimum) IV |
| 12 Simulect |
| 13 Rapamune |
| 14 Zenapax |
| 15 Mofetil (Mycophenolate) |
| 16 Campath-1 |
| 17 FTY |
| 18 OKT3 |
| 19 ALS ATG |
| 20 MNA (FK778) |
| 21 Treg |
| 98 Others |

Reasons of imm change

- | |
|----------------------------------|
| 1 Acute rejection |
| 2 Chronic rejection |
| 3 Intolerance |
| 4 Chronic renal failure |
| 5 Treated diabetes |
| 6 Treated AHT |
| 7 Treated hyperlipidaemia |
| 8 Neurological complication |
| 9 Infection |
| 10 Recurrence of initial disease |
| 11 Viral hepatitis |
| 12 De novo cancer |
| 13 Recurrent cancer |
| 14 Autoimmune hepatitis |
| 15 Others |

Recipient at transplant			
Question title	Question type	Question status	Option text
Recipient personal information			
Recipient age	Integer	Mandatory	
Recipient gender	SingleChoice	Mandatory	Male Female
Recipient height	Integer	Mandatory	
Recipient weight	FloatingPoint	Mandatory	
Recipient BMI	Auto-calculated		
Recipient blood group	SingleChoice	Optional	A B AB O
Recipient health status			
Time on the waiting list	Integer	Optional	
On chronic dialysis	Yes/No	Mandatory	
Type of dialysis	SingleChoice	Optional	Haemodialysis Peritoneal Haemodialysis AND peritoneal
Time on dialysis – years	Integer	Optional	
Total dose of insulin per day	Integer	Optional	
Type 1 diabetes	Yes/No	Mandatory	
Duration of diabetes – years	Integer	Mandatory	
No. of diabetic organ complications	SingleChoice	Desirable	One Two Three Four Five Six
Organs with complications	Multiple Choice	Optional	Cardiovascular Neurological Renal Ocular Diabetic foot Other organs
Details of other organs affected	SingleLineString	Optional	
Anticoagulation/anti-aggregation	Yes/No	Optional	
Recipient biochemistry			
Pre-Tx serum C-peptide value	Integer	Mandatory	
Pre-Tx A1C glycated Hb	Integer	Mandatory	
Recipient HLA-A#1	SingleLineString	Mandatory	Two letters = 00 => not done
Recipient HLA-A#2	SingleLineString	Mandatory	
Recipient HLA-B#1	SingleLineString	Mandatory	
Recipient HLA-B#2	SingleLineString	Mandatory	
Recipient HLA-C#1	SingleLineString	Mandatory	
Recipient HLA-C#2	SingleLineString	Mandatory	
Recipient HLA-DR#1	SingleLineString	Mandatory	
Recipient HLA-DR#2	SingleLineString	Mandatory	
Recipient HLA-DQ#1	SingleLineString	Mandatory	
Recipient HLA-DQ#2	SingleLineString	Mandatory	
Recipient HLA-DP#1	SingleLineString	Mandatory	
Recipient HLA-DP#2	SingleLineString	Mandatory	

Recipient biochemistry (cont.)

Donor specific antibody class 1	SingleChoice	Mandatory	Negative Positive
Donor specific antibody class 2	SingleChoice	Mandatory	Negative Positive
Non-donor-specific antibody	SingleChoice	Mandatory	Negative Positive
Diabetic autoantibodies	SingleChoice	Mandatory	negative anti-ICA anti-IA2 anti-GAD anti-insulin Not tested
Recipient COVID-19 Ac	SingleChoice	Optional	Negative Positive Not tested
COVID-19 vaccination	SingleChoice	Optional	No One dose Two doses Three doses
COVID-19: First dose given	SingleChoice	Optional	Pfizer BioNtech Moderna AstraZeneca Johnson & Johnson Sinovac Spoutnik V Other
COVID-19: Second dose given	SingleChoice	Optional	Pfizer BioNtech Moderna AstraZeneca Johnson & Johnson Sinovac Spoutnik V Other
COVID-19: Third dose given	SingleChoice	Optional	Pfizer BioNtech Moderna AstraZeneca Johnson & Johnson Sinovac Spoutnik V Other
COVID-19: Seroconversion after vaccination	Yes/No	Optional	
COVID-19: Value of Anti-spike IgG one month after last injection	Integer	Optional	

Recipient infections

Recipient CMV infection (serology)	SingleChoice	Desirable	Negative Positive Not tested
Recipient EBV infection (serology)	SingleChoice	Desirable	Negative Positive Not tested
Recipient HCV at the time of transplantation (serology)	SingleChoice	Desirable	Negative Positive Not tested

Recipient infections (cont.)			
Recipient CMV infection (serology)	SingleChoice	Desirable	Negative Positive Not tested
Recipient EBV infection (serology)	SingleChoice	Desirable	Negative Positive Not tested
Recipient HCV at the time of transplantation (serology)	SingleChoice	Desirable	Negative Positive Not tested
Recipient HIV at the time of transplantation (serology)	SingleChoice	Desirable	Negative Positive Not tested
Recipient COVID-19 at the time of transplantation (PCR)	SingleChoice	Desirable	Negative Positive Not tested
Recipient HBsAG at the time of transplantation	SingleChoice	Desirable	Negative Positive Not tested
Recipient HBcAB at the time of transplantation	Single Choice	Desirable	Negative Positive Not tested
Recipient historic transplants			
Any historic transplants	Yes/No	Mandatory	
LOOP for each historic transplant			
Organ transplanted	SingleChoice	Mandatory	Pancreas Islets Kidney Lung Heart Liver Other organs
Details of other organs	SingleLineString	Optional	
Date of historic transplant	Year/Month/Day	Desirable	
Current status of this organ	SingleChoice	Desirable	Optimal Good Marginal Failure

Donor			
Question title	Question type	Question status	Option text
Donor personal data			
Age of donor	Integer	Mandatory	
Donor gender	SingleChoice	Mandatory	Male Female
Donor height	Integer	Desirable	
Donor weight	FloatingPoint	Desirable	
Donor BMI	Auto-calculated		
Donor vital status	SingleChoice	Mandatory	Living Brainstem DCB Cardiac DCD
Donation after cardiac death status	SingleChoice	Mandatory	Controlled Uncontrolled
Donor cause of death	SingleChoice	Mandatory	Vascular Trauma Anoxia Other
Organs donated	Multiple Choice	Mandatory	Pancreas Islets Kidney Other organs
Details of other organs donated	SingleLineString	Optional	
DCD (donation after cardiac death) status	SingleChoice	Desirable	Controlled Uncontrolled
Normothermic regional perfusion	Yes/No	Desirable	
Pre-mortem cannulation	Yes/No	Desirable	
Post-mortem cannulation	Yes/No	Desirable	
Super-rapid recover	Yes/No	Desirable	
Total warm ischaemia	Integer	Desirable	
Functional warm ischaemia	Integer	Desirable	
Post-mortem NRP running time	Integer	Desirable	
Stay on ICU	Yes/No	Desirable	
Days on ICU	Integer	Desirable	
Stay in hospital	Yes/No	Desirable	
Days in hospital	Integer	Desirable	
Donor brainstem: cardiac arrest	Yes/No	Desirable	
Time of cardiac arrest with resuscitation manoeuvres	Integer	Desirable	
Time of cardiac arrest without resuscitation manoeuvres	Integer	Desirable	
Donor health status			
Donor ongoing hypertension	Yes/No	Mandatory	
Donor history of hypertension	Yes/No	Mandatory	
Donor currently smoking	Yes/No	Desirable	
Donor history of smoking	Yes/No	Desirable	
Donor ongoing alcoholism	Yes/No	Desirable	

Donor health status (cont.)			
Donor history of alcoholism	Yes/No	Desirable	
Donor drugs (any)	Yes/No	Desirable	
Donor biochemistry			
Donor highest sodium value	Integer	Desirable	
Donor highest creatinine value	Integer	Desirable	
Donor A1C glycated haemoglobin	Integer	Desirable	
Donor ASAT/ALAT	SingleChoice	Desirable	Normal Abnormal
Donor lipase	SingleChoice	Desirable	Normal Abnormal
Donor amylase	SingleChoice	Desirable	Normal Abnormal
Donor HLA-A#1	SingleLineString	Mandatory	See recipient
Donor HLA-A#2	SingleLineString	Mandatory	
Donor HLA-B#1	SingleLineString	Mandatory	
Donor HLA-B#2	SingleLineString	Mandatory	
Donor HLA-C#1	SingleLineString	Mandatory	
Donor HLA-C#2	SingleLineString	Mandatory	
Donor HLA-DR#1	SingleLineString	Mandatory	
Donor HLA-DR#2	SingleLineString	Mandatory	
Donor HLA-DQ#1	SingleLineString	Mandatory	
Donor HLA-DQ#2	SingleLineString	Mandatory	
Donor HLA-DP#1	SingleLineString	Mandatory	
Donor HLA-DP#2	SingleLineString	Mandatory	
Donor blood group	SingleChoice	Optional	A / B / AB / O
Donor infection screening			
Donor CMV at the time of donation (serology)	SingleChoice	Desirable	Negative Positive
Donor EBV at the time of donation	SingleChoice	Desirable	Negative Positive
Donor HCV at the time of donation	Single Choice	Desirable	Negative Positive
Donor HIV at the time of donation	SingleChoice	Desirable	Negative Positive Not tested
Donor HBsAg at the time of donation	SingleChoice	Desirable	Negative Positive Not tested
Donor HBcAb at the time of donation	SingleChoice	Desirable	Negative Positive Not tested
Donor COVID test at the time of donation	Yes/No	Desirable	

Donor donated organs			
Donor organ preservation solution	SingleChoice	Mandatory	UW (University of Wisconsin) HTK (Histidine Tryptophan Ketoglutarate) IGL (Institut Georges Lopez) Other
Details of other preservation solution	SingleLineString	Optional	
Donor organs retrieved	Multiple Choice	Desirable	Pancreas Kidney Liver Heart Lung Bowel
Donor perfusion machine pancreas	Yes/No	Desirable	
Perfusion machine (pancreas)	Table Single Choice	Desirable	hyperlink
Donor perfusion machine kidney	Yes/No	Desirable	
Perfusion machine (kidney)	Table Single Choice	Desirable	hyperlink

Operation			
Question title	Question type	Question status	Option text
Operation overview			
Date of procedure	Date	Mandatory	
Which transplantation type	SingleChoice	Mandatory	Pancreas Islets
Any other organs transplanted at the same time	Yes/No	Mandatory	
Which other organs implanted simultaneously	Multiple Choice	Mandatory	Kidney Heart Lung Liver
Clavien-Dindo Classification for pancreas complications	SingleChoice	Desirable	Grade Grade 2 Grade 3a Grade 3b Grade 4a Grade 4b Grade 5
Graft – all procedures			
Pancreas macroscopic aspect	SingleChoice	Mandatory	Not damaged Damaged
Pancreas procurement team	SingleChoice	Mandatory	Local External
Elapsed time from donor arterial clamp (cross-clamp) to cold storage preservation	Integer	Desirable	
Type of cold storage preservation solution	SingleChoice	Desirable	UW (University of Wisconsin) Celsior HTK (Histidine Tryptophan Ketoglutarate) IGL-1 (Institut Georges Lopez 1) Other
Crossmatch: virtual	SingleChoice	Mandatory	Negative Positive Not tested
Crossmatch: non-virtual	SingleChoice	Mandatory	Negative Positive Not tested
Pancreas cold ischaemic time	Integer	Mandatory	

Graft – pancreas procedure only			
Back table arterial vascular reconstruction	Yes/No	Desirable	
Venous extension graft	Yes/No	Desirable	
Operative technique	Yes/No	Desirable	
Pancreatic graft position	SingleChoice	Desirable	Right side, intraperitoneal Right side, retroperitoneal Left side, intraperitoneal Left side, retroperitoneal
Duct management	SingleChoice	Desirable	Duodeno-jejunum side to side Duodeno-jejunum Roux-en-Y Duodeno-ileum Duodeno-duodeno Duodeno-bladder
Graft – islet procedure only			
Islet yield at transplant	Integer	Mandatory	
Islet transplant purity at transplant	Integer	Desirable	
Islet surgical procedure	SingleChoice	Mandatory	
Procedures involving simultaneous kidney			
Kidney cold ischaemic time	Integer	Mandatory	

Recipient post-procedure data			
Question title	Question type	Question status	Option text
Immunosuppression: induction	Multiple Choice	Mandatory	None ATG anti-CD25 Campath 1H Belatacept anti-TNFα anti-CD20 Other
Details of other immunosuppression: induction	SingleLineString	Optional	
Intended post-operative maintenance	Multiple Choice	Mandatory	Tacrolimus CsA m-TOR Steroid Azathioprine MMF / MPA Other
Anticoagulation / anti-aggregation	Yes/No	Mandatory	
Need for dialysis during the first week after transplantation	Yes/No	Mandatory	

Follow-up			
Question title	Question type	Question status	Option text
Date of recorded events	Date	Mandatory	
Kind of follow-up entry	Multiple Choice	Mandatory	Patient vital status only Organ status only Rejection Infection Cancer Function Quality of life

Recipient health status			
Time since transplant	Auto- calculated		
Current patient status	Single Choice	Mandatory	Alive Deceased
Main cause of patient death (independent from graft function)	SingleChoice	Mandatory	Cardiac Vascular Infection Cancer Accidental Unknown Other (free text)
Details of the main cause of death	SingleLineString	Optional	
Insulin independence	Yes/No	Mandatory	
Insulin	Integer	Mandatory	
Oral / subcutaneous antidiabetics independence	Yes/No	Mandatory	
Type of oral / subcutaneous antidiabetics	SingleLineString	Mandatory	
Pregnancy	SingleChoice	Desirable	No Yes, successful Yes, unsuccessful
Date of delivery	Date	Desirable	
Date of loss of child	Date	Desirable	
PTLD after transplantation	Yes/No	Mandatory	(cancer)
Other malignancy after transplant	Yes/No	Mandatory	
Organ function			
Graft function (Igl's definition)	SingleChoice	Mandatory	Optimal Good Marginal Failure
Gold score	SingleChoice	Desirable	<4 ≥4
Clarke score	SingleChoice	Desirable	<4 ≥4
Main cause of pancreas or islet failure	SingleChoice	Mandatory	Thrombosis Rejection Bleeding Diabetes recurrence Immunosuppression toxicity Pancreatitis Non-immune cause Unknown
Details of other main reason for pancreas or islets failure	SingleLineString	Optional	
Kidney function (Igl's definition)	SingleChoice	Mandatory	Optimal Good Marginal Failure
Main cause of kidney failure	SingleChoice	Mandatory	Thrombosis Acute rejection Chronic rejection Urological Recurrence of initial kidney disease Immunosuppression toxicity BKV nephropathy Cancer Unknown Other (free text)

Organ function (cont.)			
Details of other main reason for kidney failure	SingleLineString	Optional	
Clavien-Dindo Classification for kidney complications	SingleChoice	Desirable	Grade 1 Grade 2 Grade 3a Grade 3b Grade 4a Grade 4b Grade 5
Was pancreas / islet graft rejected	Yes/No	Mandatory	No Temporarily Irreversibly
Was pancreas / islet graft rejection treated	Yes/No	Mandatory	
Was kidney irreversibly rejected	Yes/No	Mandatory	
Was kidney rejection treated	Yes/No	Mandatory	
New kidney transplant	Yes/No	Mandatory	
Recipient biochemistry			
Hb A1C value	Integer	Mandatory	
Fasting glycaemia	Integer	Mandatory	
C-peptide	Integer	Desirable	
Levels of amylase	Integer	Optional	
Diabetic autoantibodies	Multiple Choice	Mandatory	Negative anti-ZnT8 anti-ICA anti-IA2 anti-GAD anti-Insulin
Does histology of pancreas biopsy confirm recurrence?			Yes No Not done
Serum creatinine	Single Choice	Mandatory	<100 100-200 200-300 300-400 400-500 500-600 >600
GFR	Single Choice	Mandatory	<15 15-30 30-40 40-50 50-60 60-70 >70
Proteinuria	Single Choice	Mandatory	<1 g g-1 ≥1 g g-1
De novo DSA	Single Choice	Mandatory	No Class 1 Class 2

Recipient treatment			
Immunosuppression	Multiple Choice	Mandatory	Tac CsA m-TOR Steroid MMF/MPA Belatacept Aza Other
Recipient infections			
Severity of infection: was hospitalisation needed?			Yes No
Type of infection			Viral Bacterial Fungal
Post-transplant COVID-19 infection	Yes/No	Optional	
Date of post-transplant COVID-19 infection	Date	Optional	
Hospitalisation for COVID-19 infection	Yes/No	Optional	
Date of hospitalisation for COVID-19 infection	Date	Optional	
In-hospital therapy for COVID-19	Multiple Choice	Optional	None Steroids Tocilizumab Tofacitinib Monoclonal Antibodies Other
Recipient COVID-19 infection after transplantation (PCR)	SingleChoice	Optional	Negative Positive Not tested
CMV infection/disease after transplantation	Yes/No	Desirable	
BKV infection after transplantation	Yes/No	Desirable	
Documented BKV nephropathy after transplantation	Yes/No	Desirable	
Immunosuppression at the time of infection	SingleLineString	Optional	
Withdrawal of maintenance immunosuppression	Yes/No	Optional	
Treatment	Not specified	Optional	Anti-proliferative mTOR inhibitors Steroids Belatacept
Allograft pancreatic failure following COVID-19	Yes/No	Optional	
Allograft kidney failure following COVID-19	Yes/No	Optional	
Cause of allograft failure(s)	SingleLineString	Optional	
Recipient quality of life			
Did the patient resume professional activity after transplant?	Yes/No	Desirable	
Is the patient happy with the transplant?	Yes/No	Desirable	
Would the patient recommend transplantation?	Yes/No	Desirable	

Matrix for follow-up questions

	Sections							
	Routine check (annual)	Death	Rejection	Graft failure	Infections	Cancer	Recurrence of diabetes	Pregnancy
DATE OF EVENTS RECORDED								
Recipient health status								
Time since transplant								
Current patient status								
Main cause of patient death (independent from graft function)								
Details of other main cause of death								
Insulin independence								
Insulin								
Oral / subcutaneous antidiabetics independence								
Type of oral / subcutaneous antidiabetics								
Pregnancy								
Date of delivery								
Date of loss of child								
PTLD after transplantation								
Other malignancy after transplant								
Organ function								
Organ function								
Graft function (IgIs definition)								
Gold score								
Clarke score								
Main cause of pancreas or islets failure								
Details of other main reason for pancreas or islets failure								
Kidney function (IgIs definition)								
Main cause of kidney failure								
Details of other main reason for kidney failure								
Clavien-Dindo Classification for kidney complications								
Was pancreas / islets graft rejected								
Was pancreas / islets graft rejection treated								
Was kidney irreversibly rejected								
Was kidney rejection treated								
New kidney transplant								

[illegible]

General Assembly of the United Nations



Resolution adopted by the General Assembly (United Nations) on 15 December 2022 (77/236). Strengthening and promoting effective measures and international cooperation on organ donation and transplantation to prevent and combat trafficking in persons for the purpose of organ removal and trafficking in human organs.

[on the report of the Third Committee (A/77/464, para. 31)]

Seventy-seventh session
Agenda item 109
Crime prevention and criminal justice

77/236. Strengthening and promoting effective measures and international cooperation on organ donation and transplantation to prevent and combat trafficking in persons for the purpose of organ removal and trafficking in human organs

The General Assembly,

Reaffirming the purposes and principles of the Charter of the United Nations and the Universal Declaration of Human Rights,¹

Recalling the 2030 Agenda for Sustainable Development,² and recognizing its integrated and indivisible nature,

Reaffirming the commitments by Member States to take immediate and effective measures to eradicate all forms of trafficking in persons,

Recalling its resolutions [59/156](#) of 20 December 2004, entitled “Preventing, combating and punishing trafficking in human organs”, [73/189](#) of 17 December 2018, entitled “Strengthening and promoting effective measures and international cooperation on organ donation and transplantation to prevent and combat trafficking in persons for the purpose of organ removal and trafficking in human organs”, [74/176](#) of 18 December 2019, entitled “Improving the coordination of efforts against trafficking in persons”, [75/195](#) of 16 December 2020, entitled “Strengthening and promoting effective measures and international cooperation on organ donation and transplantation to prevent and combat trafficking in persons for the purpose of organ removal and trafficking in human organs”, and [76/186](#) of 16 December 2021, entitled “Improving the coordination of efforts against

¹ Resolution [217 A \(III\)](#).

² Resolution [70/1](#)..

trafficking in persons”, as well as Commission on Crime Prevention and Criminal Justice resolutions 23/2 of 16 May 2014³ and 25/1 of 27 May 2016⁴ on preventing and combating trafficking in human organs and trafficking in persons for the purpose of organ removal,

Reaffirming the United Nations Convention against Transnational Organized Crime⁵ and the Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, supplementing the United Nations Convention against Transnational Organized Crime,⁶

Recalling the adoption of the United Nations Global Plan of Action to Combat Trafficking in Persons by the General Assembly in its resolution 64/293 of 30 July 2010, and underlining the importance of its full implementation,

Welcoming the adoption of the 2021 Political Declaration on the Implementation of the United Nations Global Plan of Action to Combat Trafficking in Persons at the high-level meeting of the General Assembly held at United Nations Headquarters in New York on 22 and 23 November 2021,⁷

Recognizing the need for a multidisciplinary approach, based on respect for all human rights, to combating trafficking in human organs and trafficking in persons for the purpose of organ removal,

Taking note with appreciation of the World Health Organization guiding principles on human cell, tissue and organ transplantation, endorsed by the sixty-third World Health Assembly in its resolution 63.22 of 21 May 2010,⁸ and of the Madrid resolution resulting from the Third Global Consultation on Organ Donation and Transplantation, which provides guidance for countries to progress towards self-sufficiency,⁹

Noting the intention of the World Health Organization to administratively transform its Task Force on Donation and Transplantation of Human Organs and Tissues, established in June 2018, into an advisory expert group

on donation and transplantation of human organs, tissues and cells with a view to improving technical advice and support for the World Health Organization at all levels in disseminating and implementing its guiding principles and in capacity-building in order to ensure ethical practices in organ and tissue donation and transplantation worldwide,

Taking note of the report of the Special Rapporteur of the Human Rights Council on trafficking in persons, especially women and children, on the issue of trafficking in persons for the removal of organs submitted to the General Assembly at its sixty - eighth session,¹⁰

Welcoming the joint study by the United Nations and the Council of Europe, entitled “Trafficking in organs, tissues and cells and trafficking in human beings for the purpose of the removal of organs”, and the United Nations Office on Drugs and Crime assessment toolkit, entitled “Trafficking in persons for the purpose of organ removal”, and taking note of the study by the Office of the United Nations High Commissioner for Human Rights, entitled “Trafficking in persons for the removal of organs: advancing a human rights approach and engaging human rights mechanisms”, and the 2018 edition of the Declaration of Istanbul on Organ Trafficking and Transplant Tourism,

Taking note of the Council of Europe Convention against Trafficking in Human Organs as the first legally binding document, open to accession by non-member States of the Council of Europe, that provides a list of activities that constitute trafficking in human organs and includes provisions to prevent and combat this crime, to protect its victims and to promote cooperation among parties in the fight against this crime, which usually has a transnational scope,

Welcoming the statement issued by the World Medical Association on measures for the prevention and fight against transplant-related crimes, adopted by the seventy-first World Medical Association General Assembly in Cordoba, Spain, in October 2020, acknowledging that

³ See Official Records of the Economic and Social Council, 2014, Supplement No. 10 (E/2014/30), chap. I, sect. D.

⁴ Ibid., 2016, Supplement No. 10 (E/2016/30), chap. I, sect. D.

⁵ United Nations, Treaty Series, vol. 2225, No. 39574.

⁶ Ibid., vol. 2237, No. 39574..

⁷ Resolution 76/7, annex.

⁸ See World Health Organization, document WHA63/2010/REC/1.

⁹ “The Madrid resolution on organ donation and transplantation: national responsibility in meeting the needs of patients, guided by the WHO principles”, Transplantation, vol. 91, 15 June 2011, pp. S29–S31.

¹⁰ See A/68/256.

health-care professionals may play a key role in preventing and combating trafficking in persons for the purpose of organ removal and trafficking in human organs, and calling upon policymakers, health authorities and health-care professionals to take appropriate measures to counter it,

Affirming that trafficking in persons for the purpose of organ removal and trafficking in human organs constitute two distinct crimes that abuse or impair the enjoyment of human rights and fundamental freedoms and have significant negative health implications, and stressing that it is essential to place the protection of all human rights at the centre of measures to prevent and end such trafficking,

Recognizing that, although trafficking in human organs and trafficking in persons for the purpose of organ removal are distinct crimes, both are related to the shortage of human organs available for transplantation and to social and economic difficulties that put persons in vulnerable situations that have worsened as a result of the coronavirus disease (COVID-19) pandemic, and that prevention of and response to both crimes must be undertaken in an effective and coordinated manner,

Considering that the whole process of donation and transplantation of human organs should be an established part of national health services provided to the public, that the process should take place under conditions aimed at the protection of human rights of donors and recipients of organs and that health-care systems should be instrumental in ensuring such conditions,

Considering also that the commercial trade in human organs is prohibited in almost all Member States and that both trafficking in persons for the purpose of organ removal and trafficking in human organs have a profound impact on the health both of those who sell their organs and of victims of trafficking in persons for the purpose of organ removal, as well as on recipients of organs obtained in such circumstances, and that both crimes might represent a threat to public health and may, in some cases, affect the integrity and the functioning of health-care systems,

Alarmed at the exploitation by criminal groups that take advantage of human needs, poverty and destitution and of other people in vulnerable situations for the purpose of trafficking in human organs, and trafficking in persons for the purpose of organ removal,

Noting the need to protect living donors and recipients, who are usually the most vulnerable members of society, from exploitation by traffickers, including by providing them with relevant information, as well as the need to

investigate, prosecute and punish those traffickers and to provide assistance to victims,

Emphasizing the importance of respecting and protecting the rights of victims of trafficking in persons for the purpose of organ removal and, when recognized in national legislation, addressing the vulnerability of victims of trafficking in human organs, and providing assistance, as applicable,

Noting that situations of protracted crises, armed conflict, poverty, natural disasters and violence, the adverse effects of climate change, other environmental challenges, and health, economic, social and humanitarian emergencies can further exacerbate existing vulnerabilities and cause more individuals to become vulnerable to trafficking in persons for organ removal,

Convinced of the need to strengthen local, regional and international cooperation for the effective prevention and combating of trafficking in persons for the purpose of organ removal and trafficking in human organs wherever they occur, and determined to prevent the provision of safe haven to those who participate in or profit from transnational organized crime and to prosecute such persons for the crimes that they commit,

Considering that measures to address trafficking in human organs and trafficking in persons for the purpose of organ removal referred to in the present resolution should, where appropriate, be extended by the Member States to substances of human origin other than organs, such as tissues and cells,

1. *Urges* Member States to prevent and combat trafficking in persons for the purpose of organ removal and trafficking in human organs, in accordance with their obligations under international and national law, and to uphold accountability through measures that may include preventing and, in accordance with relevant national legislation, investigating, prosecuting and punishing trafficking in persons for the purpose of organ removal and trafficking in human organs;
2. *Urges* Member States that have not yet done so to ratify or accede to, as a matter of priority, the United Nations Convention against Transnational Organized Crime and the Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, supplementing the United Nations Convention against Transnational Organized Crime, taking into consideration the central role of those instruments in the fight against trafficking in persons, and urges States parties to those instruments to

implement them fully and effectively;

3. *Encourages* Member States, consistent with their obligations under the relevant international instruments, including the Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, to criminalize trafficking in persons for organ removal, prevent and combat this specific form of trafficking, protect and assist its victims and promote cooperation;
4. *Also encourages* Member States to further strengthen international cooperation in the fight against trafficking in persons for organ removal, and to harmonize, where appropriate, their legal frameworks in this regard, including by considering signing, ratifying or acceding to relevant international treaties, such as the Council of Europe Convention against Trafficking in Human Organs;
5. *Further encourages* Member States to progress towards self-sufficiency in the transplantation of human organs by developing preventive strategies aimed at decreasing the incidence of diseases treatable through transplantation, and at ethically increasing the availability of human organs for transplantation purposes, with special attention to maximizing donations from deceased donors and to protecting the health and welfare of living donors;
6. *Urges* Member States to consider adopting the following measures related to organ transplantation, in accordance with the fundamental principles of their domestic legal systems and national legislation and in line with the World Health Organization guiding principles on human cell, tissue and organ transplantation:¹¹
 - a. Strengthening legislative frameworks, including by reviewing, developing or amending them, as appropriate, to prevent and combat trafficking in persons for the purpose of organ removal and trafficking in human organs, including the criminalization of these practices and provisions to ensure the accountability of the perpetrators;
 - b. Adopting appropriate legislative measures necessary to guarantee that the donation of organs is guided by clinical criteria and ethical norms, based on the donors' informed and voluntary consent, as an altruistic act, performed without any monetary payment or other reward of monetary value, for the living donor or the family of the deceased donor, or any other person or entity, which does not preclude reimbursing reasonable and verifiable expenses incurred by donors;
 - c. Ensuring equitable access to human organ transplantation, on the basis of non-discrimination;
 - d. Increasing public awareness and understanding of the benefits resulting from the voluntary non-remunerated donation of organs from deceased and living persons, and of the physical, psychological and social risks to individuals and communities caused by trafficking in human organs and trafficking in persons for the purpose of organ removal, as well as transplant tourism;
 - e. Ensuring that the removal of human organs from both deceased and living persons, as well as the transplantation of human organs, exclusively take place in centres specifically authorized for such activities by the relevant national health authorities and are not performed outside the framework of domestic transplantation systems or in situations where the transplantation is performed in breach of the guiding principles or national transplantation laws or rules;
 - f. Developing and strengthening regulatory oversight of the medical facilities and medical professionals involved in the recovery and transplantation of human organs, including through control measures, such as periodic audits;
 - g. Setting specific processes and criteria for the authorization of every organ removal and transplantation procedure;
 - h. Establishing and developing registries that include information regarding each organ recovery and transplantation procedure and outcomes for living donors and recipients of organs, as well as identification systems that facilitate tracing each organ from donor to recipient and vice versa, with the purpose of ensuring the transparency of practices and the quality and

¹¹ World Health Organization, document WHA63/2010/REC/1, annex 8.

safety of human organs, with due regard to professional confidentiality and personal data protection;

- i. Ensuring that these registries are designed to record information on procedures that take place within a country and on transplant and living donation procedures involving residents of that country carried out in other jurisdictions, in accordance with national legislation and relevant international obligations on data protection;
 - j. Promoting the voluntary contribution of periodic information to international registers for organ donation and transplantation activity, such as the Global Observatory on Donation and Transplantation developed in collaboration with the World Health Organization, which also collects data on cases of travel for transplantation;
 - k. Providing long-term medical and psychosocial care for both living donors and recipients;
7. *Encourages* Member States to prosecute all actors that knowingly engage in trafficking in persons for organ removal, regardless of their status and including physicians, brokers, medical staff and legal persons, such as pharmaceutical and insurance companies;
 8. *Encourages* Member States, international organizations and civil society to ensure sustained efforts in terms of information and awareness-raising activities aimed at fostering a positive attitude on the part of society regarding donation, including posthumous donation, as a gesture of altruism, solidarity and community participation, and to warn of the risks of organ removal when performed in the context of trafficking, in particular among people in vulnerable situations at risk of becoming victims of this crime;
 9. *Encourages* Member States to develop effective and properly resourced organ donation and transplantation systems and provide technical assistance for their implementation in requesting countries;
 10. *Also encourages* Member States to exchange experience in and information on preventing, prosecuting and punishing trafficking in human organs and trafficking in persons for the purpose of organ removal, to combat the illicit financial flows resulting from such trafficking, as well as on the protection of victims, as appropriate, and to

strengthen international cooperation between all relevant actors;

11. *Further encourages* Member States to provide training and capacity- building for law enforcement and border control officials, as well as for health -care professionals, on identifying potential cases, including on the Internet, of trafficking in human organs and trafficking in persons for the purpose of organ removal and on the need to certify the origin of organs to be transplanted and to report suspected or confirmed illegal practices;
12. *Calls upon* Member States, in cooperation with national medical associations and/or other relevant professional bodies, to establish, where appropriate, guidelines and toolkits, reporting mechanisms or other necessary frameworks for health-care professionals to report any confirmed or suspected case of trafficking in persons for the purpose of organ removal and of trafficking in human organs to the relevant authorities and, where applicable, to ensure that the reporting of trafficking cases is a permitted exception to the physician's obligation to maintain confidentiality;
13. *Urges* Member States to ensure that health authorities and/or insurance providers do not reimburse the costs of transplant procedures that have occurred in the context of trafficking in persons for the purpose of organ removal or trafficking in human organs, although the costs of medications and post-transplant care should be covered under the same conditions that apply to any other transplant recipient;
14. *Encourages* Member States to strengthen international cooperation in responding to the crimes of trafficking in persons for the purpose of organ removal and trafficking in human organs, as provided for in domestic and international law;
15. *Urges* Member States to further develop, in their domestic legislation, ways of protecting victims of trafficking in persons for the purpose of organ removal and, as appropriate, ways of addressing the vulnerability of those individuals who sell their organs, including by considering the following measures:
 - a. Adopting all necessary measures, including legal measures, guidelines or policies, to protect the rights and interests of victims in the course of all phases of criminal prosecution and judicial proceedings and to ensure accountability, and intensifying efforts, subject to national laws,

rules and regulations, to implement the principle of non-punishment of victims of trafficking, under which victims are not to be inappropriately punished or prosecuted for acts that traffickers compelled them to commit or that they committed as a direct consequence of being trafficked;

- b. Facilitating the access of victims of trafficking in persons for the purpose of organ removal and, as allowed by domestic law, of those individuals who sell their organs to relevant information related to their case, while respecting their anonymity, as well as measures to protect their health and other rights;
 - c. Providing necessary medical and psychosocial care, as well as support and assistance, including livelihood support, as appropriate, to victims of trafficking in persons for the purpose of organ removal and individuals who sell their organs in the short, medium and long term;
 - d. Ensuring that domestic legal systems take measures based on a victim centred-approach that offer victims of trafficking in persons for the purpose of organ removal and individuals who sell their organs the possibility of obtaining effective compensation and other remedies, including legal remedies, for the damage suffered, without fear of facing retaliation;
 - e. Promoting the creation of governmental mechanisms and providing support to specialized non-governmental organizations, as appropriate, to address the needs of groups at risk of trafficking in human organs and trafficking in persons for the purpose of organ removal in order to facilitate the provision of holistic and early care to potential or actual victims of those crimes, and ensuring that all support measures are non-discriminatory, gender-, age- and culturally sensitive and comply with international human rights obligations and national legislation;
16. *Encourages* the World Health Organization, in consultation with Member States and other relevant stakeholders, to take further steps towards developing a global strategy in the field of organs, tissues and cells that seeks the integration of donation and transplantation into health-care systems in accordance with the World Health Organization guiding principles on human cell, tissue and organ

transplantation and that would reference the importance of avoiding trafficking in persons for organ removal and organ trafficking;

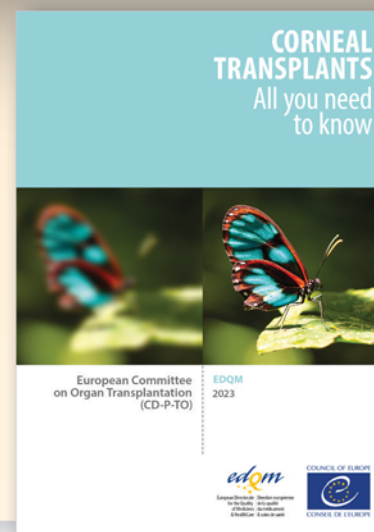
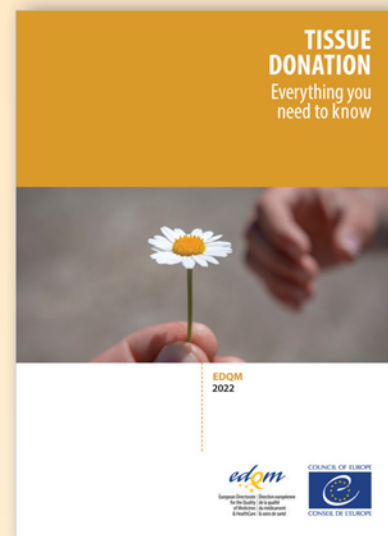
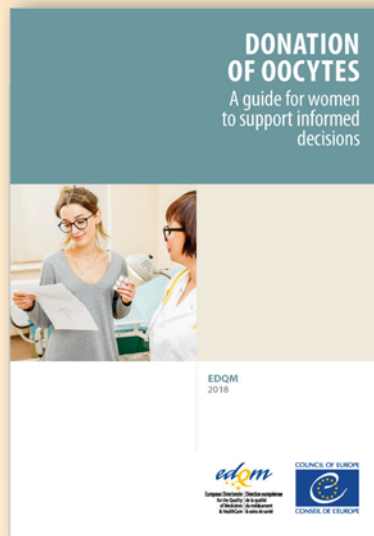
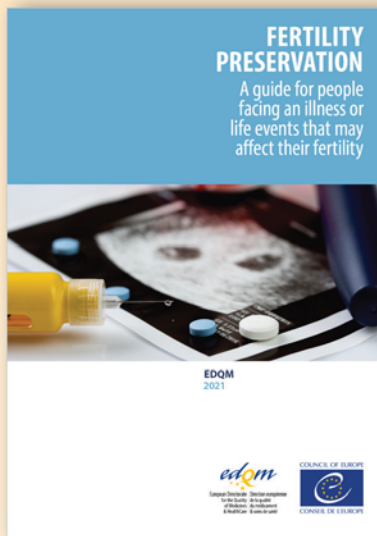
17. *Requests* the World Health Organization, the United Nations Office on Drugs and Crime and the Office of the United Nations High Commissioner for Human Rights to continue to provide guidelines to Member States for developing orderly, ethical and acceptable programmes for the acquisition and transplantation of human organs for therapeutic purposes, with particular attention to low-middle-income countries, and to intensify the coordination of efforts in combating organ trafficking and trafficking in persons for the purpose of organ removal, including the development of additional transplantation registries;
18. *Requests* the United Nations Office on Drugs and Crime to engage in a dialogue with members of the Inter-Agency Coordination Group against Trafficking in Persons and other relevant intergovernmental international organizations, in particular the World Health Organization, in close consultation with Member States, so as to enable the Office to improve data collection and analysis on instances of trafficking in persons for the purpose of organ removal and relevant prosecutions, and to promote research among diverse fields, such as the medical and health management fields, as well as on the part of the anti-trafficking community, while bearing in mind that data on trafficking in persons for the purpose of organ removal are being gathered for the Global Report on Trafficking in Persons, in accordance with the provisions set out in General Assembly resolution [70/179](#) of 17 December 2015;
19. *Also requests* the United Nations Office on Drugs and Crime, in collaboration with other entities of the United Nations system, including the World Health Organization, to continue providing capacity-building and technical assistance to States, upon request, to assist them in strengthening national capacities to effectively prevent and combat trafficking in persons for the purpose of organ removal and trafficking in human organs, with important tools such as the new United Nations Office on Drugs and Crime toolkit on the investigation and prosecution of trafficking in persons for organ removal;
20. *Invites* Member States and other donors to provide extrabudgetary resources to the United Nations Office on Drugs and Crime for the purpose of implementing the present resolution and to the

World Health Organization to disseminate and implement the principles endorsed by the World Health Assembly to address the ethical aspects of organ transplantation, such as voluntary and unpaid donation, universal access to transplant services, the availability, safety and quality of the procedures and national accountability through the development of sustainable transplant systems and the achievement of national self-sufficiency in order to stop trafficking in human organs and trafficking in persons for the purpose of organ removal, as well as transplant tourism;

21. *Requests* the Secretary-General to submit a report on the implementation of the present resolution to the General Assembly at its seventy-ninth session, all costs associated with it to be covered by extrabudgetary resources.
22. *Decides* to continue its consideration of the question at its seventy-ninth session, under the item entitled "Crime prevention and criminal justice".

*54th plenary meeting
15 December 2022*

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