



Institute for Transplantation of Organs
and Tissues of the Republic of Slovenia
Slovenija transplant

ORGAN AND TISSUE DONATION AND TRANSPLANTATION IN SLOVENIA

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Organ and tissue donation and transplantation in Slovenia 2024

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INTRODUCTORY WORDS

The year 2024 was not the most encouraging year for users and providers of healthcare services in Slovenia. The negative consequences of the long-standing doctors' strike, numerous internal and external personnel and system problems in the healthcare sector were unfortunately transferred to the donor programme. We have taken an active approach to resolving the deteriorating situation and introduced several short-term measures in the second half of the year, including early audit meetings in institutions participating in the national donor network.

Numbers in the donor programme were lower compared to the record year 2023. The detection of potential deceased donors decreased. In 2024, 63 suitable donors were maintained in donor centres. 47 active donors donated 146 organs for transplantation. We have managed to maintain a high level of consent to donation from relatives (> 82%), which contributed significantly to the stable yearly results. It is encouraging that the number of entries on the waiting lists for transplantation has increased, as this allows more organs to find a final recipient from Slovenia.

Despite unfavourable external circumstances, we managed to achieve most of Institute's annual goals. We have actively and successfully collaborated at international level, we have received prestigious awards (Netko 2024 and Websi) for the newly launched Institute's website, and we have achieved a positive business results of the institution. The EU project You Have More Than One Life, which we effectively completed in 2024, was recognised internationally as an added value and received the EDUInspiration Award among numerous Erasmus+ projects. We have completed the development of the national information programme for tissues and cells and have started training for responsible persons in institutions. We have created a national code for tissues and cells, a unique and advanced solution, for which we were praised by the relevant committee in the Council of Europe. With Eurotransplant, we have maintained active cooperation at all levels of organ and tissue exchange and professional cooperation in committees. As part of the EU BRAVEST project, we have made significant progress in the exchange of sensitive data on donors and recipients at an international level. We have been very active in the sphere of communication with the media and the public. In addition to the well-established travelling photo exhibition "My Scar, My Life", the "Circle of Gratitude and Cooperation" project was launched. In cooperation with patient associations the project was presented to the public in October on European Donation Day.

With all these soft measures, we are raising the understanding of our activities among the professional and the general public. We also reach the professional public through quarterly e-newsletters, lectures, training courses, review meetings and articles. It seems that we need to reach out to the professional community even more. We are aware, a well-motivated and educated public is the basis for developmental changes, also in the direction of donation after (controlled) circulatory death.

I invite you to browse through our annual publication and find out more about work results.

Andrej Gadžijev, MD

Director and physician responsible for donation medicine

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THE SLOVENIJA-TRANSPLANT INSTITUTE

Since 2002 the Institute of the Republic of Slovenia for the Transplantation of Organs and Tissues Slovenija transplant, has been the central national expert institution for connecting, co-ordinating, promoting and supervising donor and transplantation activity in Slovenia. The Institute creates the organisational conditions, professional protocols and appropriate legislation to ensure that we have a successful, ethical, high quality and transparent organ donation system in Slovenia.

Established in 1998, Slovenija-transplant is the primary co-ordination office of the national transplantation network. This network consists of 11 donor hospitals across Slovenia, the Transplantation Centre at the Ljubljana University Medical Centre, and the Tissue Typing Centre within the Blood Transfusion Centre of Slovenia. It operates the donor and recipient programme, while also ensuring that medical treatment with a transplantation is possible for all who need it. The expert teams are in a state of readiness 24 hours a day, every day of the year.

Slovenia has been a member of Eurotransplant, a non-profit organisation for the exchange of organs and tissues, since 2000. After meeting the demanding admission criteria, it was the first country in the region to join the group of five successful countries in the field of transplant treatment, i.e. Germany, Austria, Belgium, Luxembourg and the Netherlands. Today, Eurotransplant, based in Leiden in the Netherlands, brings together 8 countries and over 137 million inhabitants. This membership is important for our patients because joining Eurotransplant has significantly improved their chances of survival and the results of transplant treatment. It ensures better compatibility between donor and recipient and finding a suitable recipient for each donated organ. Membership in Eurotransplant also enables continuous professional development and improvement.

Since its foundation, the Institute has continued to develop in line with international guidelines. We endeavour to create an informed and motivated professional public and to consistently strengthen public confidence in the organ donation system through multi-pronged communication.

Through its membership of international expert committees and participation in European projects, the Institute is closely involved in the international environment, also as an active co-designer of strategies, development and training of experts. We continue to set an internationally recognised example of how a national donor programme should be organised and managed. In its management and leadership of activities for procuring and using parts of the human body for medical treatment purposes, Slovenija-transplant consistently complies with the legislation, European directives and adopted international conventions. We also ensure that national legislation and expert protocols are

promptly updated. Any changes we introduce are based on expert medical decisions and proposals, critical social considerations as well as the principles of medical ethics and deontology.

The key guidelines of our Institute's operations include:

self-sufficiency – patient equality and safety – optimal effectiveness – quality – traceability – professionalism – non-commercial orientation – transparency – voluntary donation – prevention of abuse.

Since January 2022, Slovenija-transplant has been led by Andrej Gadžijev, MD, a specialist in traumatology and physician responsible for donation activities. Danica Avsec, MD, deputy director, is also a physician responsible for donation activities. On 31.12.2024 the Institute employed 8 full-time staff and worked with 131 people under contract in the donor programme:

- 43 hospital transplant coordinators and their assistants,
- 12 central transplant coordinators,
- 2 mentors to junior central transplant coordinators,
- 19 ophthalmologists from the Eye clinic,
- 24 surgical residents involved in the training in the multi-organ transplant team,
- 12 neurologists in the brain death diagnostics team,
- 6 neurophysiological nurses in the brain death diagnostics team,
- 13 surgeons specialist, members of the multi-organ transplant team.

The Institute operates under the auspices of the Ministry of Health of the Republic of Slovenia.



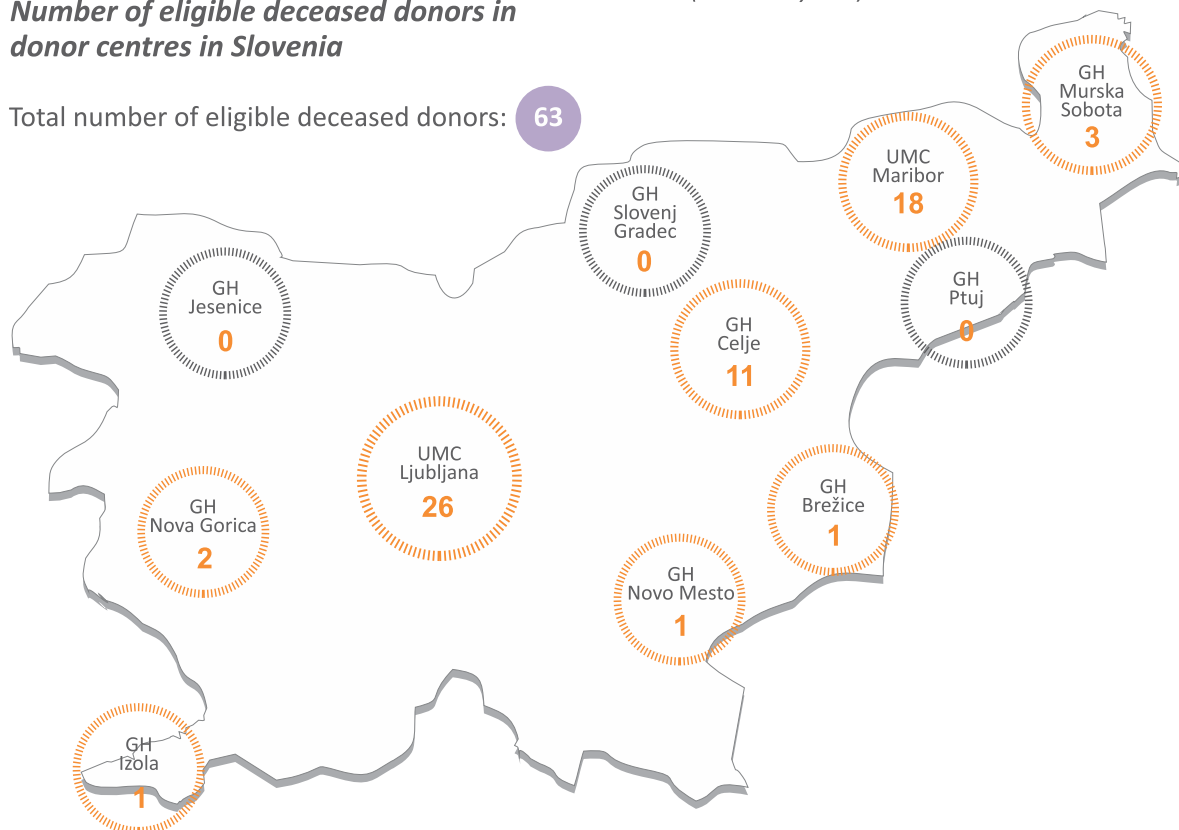
KEY STATISTICS FOR 2024

Actual deceased donors in 2024: 47

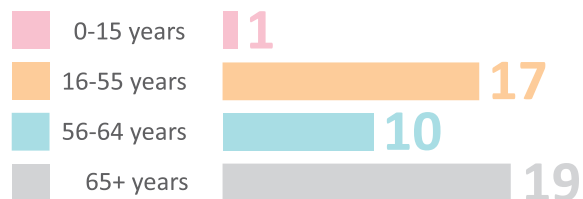


Number of eligible deceased donors in donor centres in Slovenia

Total number of eligible deceased donors: 63

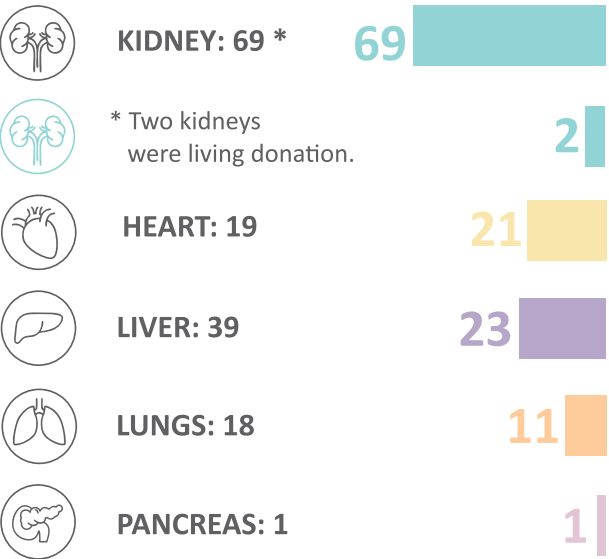


Age of deceased donors

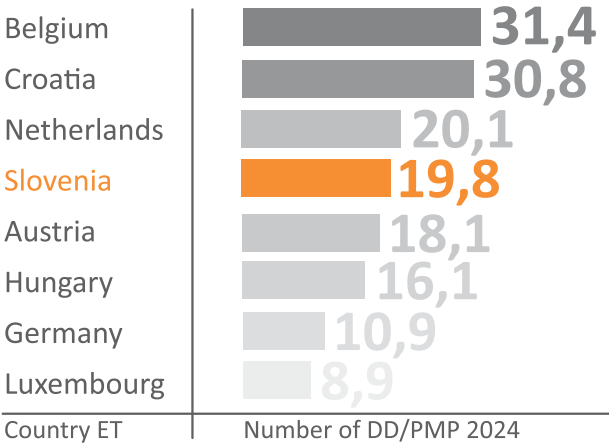


Average age of deceased donors: 56,7 years
(2023: 60 years).

Deceased donors donated 146 organs



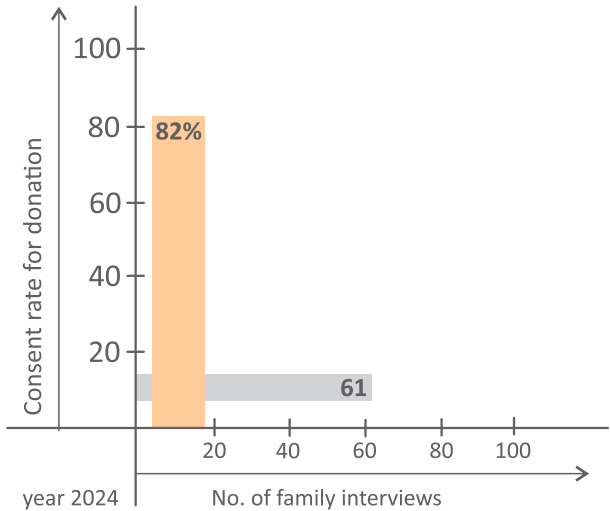
Number of utilized deceased donors per million people (DD/PMP) and a comparison with other Eurotransplant countries in 2024



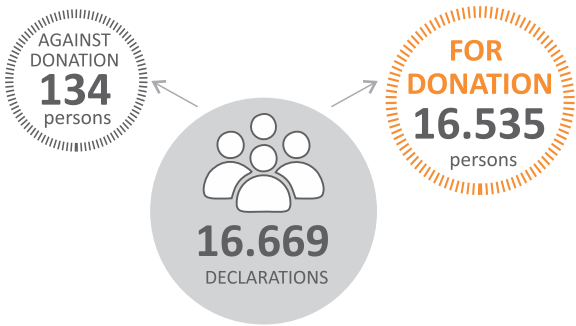
Source: <http://statistics.eurotransplant.org/>

Family interviews and consent for donation

Nr. of family interviews: 61
Consent rate for donation: 82 %

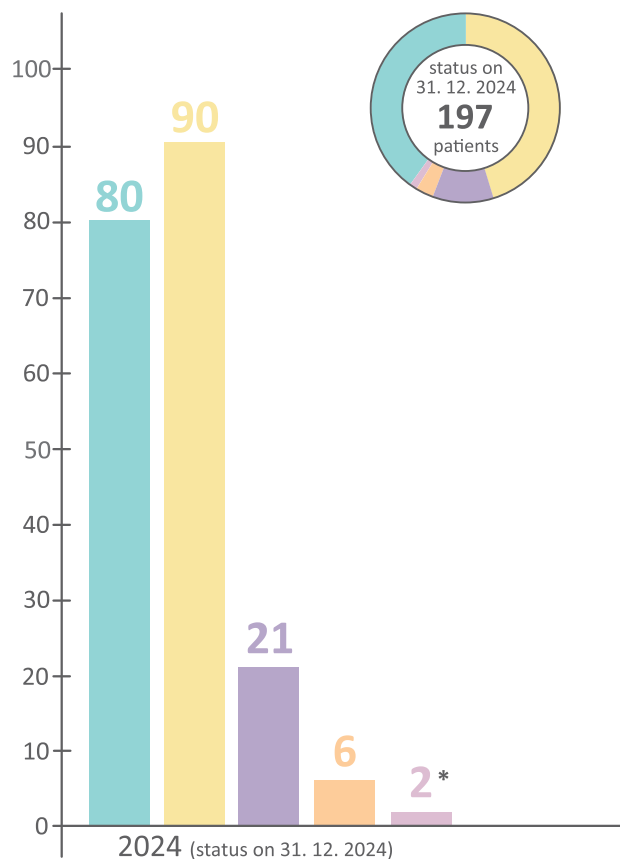


National organ donor registry



In 2024, 984 people made an official declaration. Most of the declarations (300) came from younger people, in the 19-28 age group.

Waiting list



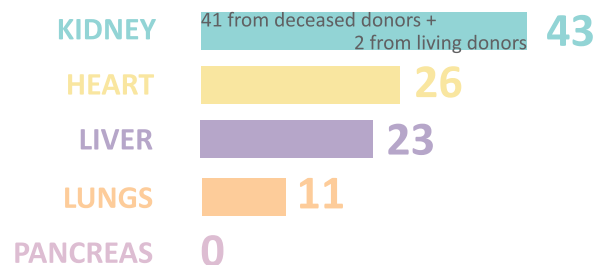
* In combination with kidney transplantation.

Joint Eurotransplant's waiting list:

13.570 patients (status on 31. 12. 2024)

Waiting time in Slovenia is different for each organ and each case. In case of urgent transplantation of heart, lungs or liver waiting time is a couple of days.

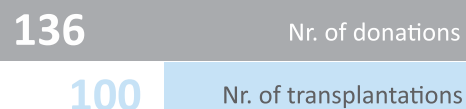
In the Transplantation centre UMC Ljubljana 103 solid organs were transplanted



Legend:



CORNEA



OUTSTANDING ACHIEVEMENTS AND HIGHLIGHTS OF 2024

DONATION PROGRAMME

- 63 eligible deceased donors were identified in 11 donor centres throughout Slovenia.
- From 42 utilized donors, 146 organs were obtained, which corresponds to more than 3.4 organs per donor. The result is better than last year's record year. The quality and professionalism of the work of the staff in the donor programme is encouraging, as they have managed to maintain the high quality and suitability of organs for further treatment through appropriate procedures.
- The refusal of relatives fell below 18% (17.5), which is the best result in the last three years. This has mitigated the impact of lower detection of potential deceased donors.

EDUCATION AND PUBLIC AWARENESS

- We have updated training courses for the professional public with new developments and modern professional guidelines, such as active detection, new guidelines for the treatment and care of critically ill patients in the intensive care unit and options for organ and tissue donation after death (ICOD programme) and organ donation after controlled or circulatory death (cDCDD).
- The new website **www.slovenija-transplant.si** was the absolute winner (Best Project of the Year 2024) in the competition NETKO 2024. We also achieved 1st place in the Public and Non-Governmental Organisations category. We also won the prestigious WEBSI competition in the Public and Non-Governmental Organisations category.
- In October 2024, we published a new brochure with answers to the most frequently asked questions about organ donation. The back page featured a sticker indicating "I am an organ donor".
- In 2024, we recorded fewer registrations in the national organ donor register compared to previous years. 983 people registered. 700 or 71% of the declarations were sent via the eGovernment web portal. By the end of 2024, 16,669 people had been enrolled in the register, of whom 16,535 were in favour of donation and 134 against.
- In October, on the occasion of European Donation Day 2024, we launched a new communication project, the Circle of Gratitude and Cooperation. After the press conference, we opened an exhibition of sculptures and informative posters in the main hall of the Ljubljana University Hospital. Please read more about the project in the chapter CIRCLE OF GRATITUDE AND COOPERATION.

- With the exhibition of artistic nudes of transplant recipients, *My Scar, My Life*, which we developed in cooperation with the patient organisation Slovenian Transplant association, we toured several places in Slovenia. With photographs and accompanying explanatory posters, we dispel stereotypes, broaden understanding of organ donation and transplantation and encourage people to decide in favour of organ donation. List of guest appearances in 2024:

15. January – 28. February: Celje General Hospital

10. May – 12. June: Portorož Auditorium

17. June – 30. August: Izola General Hospital

7. October – 5. November: Magistrate's Gallery, Ptuj

7. November – 7. December: Miran Jarc Library, Novo mesto.

EU PROJECTS

- The EU project *You Have More Than One Life*, which we carried out with our Polish partner between 2022 and 2023 (Erasmus+ programme), was selected from numerous projects in the field of social action. In October 2024 we received the international EDUInspiration2024 Award.
- On 14 and 15 March 2024, we hosted an annual (review) meeting of the consortium of the EU project BRAVEST: Building Resilience Against crisis: a systematic and global approach to adVancE organ Safety and supply in Transplantation. The meeting was organized in Brdo pri Kranju.
- Experts from Slovenija-transplant have been actively involved in international committees for the renewal of professional guidelines in the field of donor medicine and biovigilance. The guidelines will be published in 2025.
- From 10 to 12 October 2024, the DCD Congress took place in Bucharest under the auspices of the European Society for Organ Transplantation (ESOT). It was three days of constructive discussions, the search for consensus decisions, the exchange of experiences, results and recommendations. At the international congress, Andrej Gadžijev presented the results of the study End-of-life care as a prerequisite for DCD implementation, by Avsec, Šimenc, Gadžijev, Marić.

THE CIRCLE OF GRATITUDE AND COOPERATION

The European Organ Donation Day is an annual opportunity to reflect on our views and wishes regarding organ donation. Each year Slovenia-transplant draws the attention of the media and the public to this important topic, individual professional aspects and procedures through various events. On the occasion of EDD 2024, together with patients organisations, we have launched a new public awareness campaign, the Circle of Gratitude and Cooperation. The exhibition joined Slovenia-transplant Institute and patients organisations, the Slovenian Transplant Association, the Pulmonary Hypertension Association and the Cystic Fibrosis Association of Slovenia.

The central event took place on 18 October 2024 in the main hall of the University Hospital Centre Ljubljana. The press conference was followed by the moving opening of an exhibition of art sculptures and information boards. The artistic sculptures of solid organs and cornea were created by members of the BKBF art group, in which sculptors Robert Jurak, Izidor Zadavec and Nedim Hadži Ahmetović – Mafa call for self-criticism with abstract compositions. The accompanying informative panels on organ and cornea donation and transplantation were developed by Slovenia-transplant.

The focus of the whole campaign was on the concepts of gratitude and collaboration, on several levels: between medicine and society, between donors and recipients, between experts, between patients and doctors. Around 100 experts and support services from various fields and institutions are involved in each chain of events from donation to transplantation. At the same time, lifelong co-operation between patients and doctors is required after the organ transplantation. The central concept of the exhibition is therefore a circle that symbolises cooperation in a closed support network.

The opening event was upgraded by music from the brilliant musicians AKA Neomi. In addition to the media, numerous experts from UKC Ljubljana and Slovenia-transplant, who specialise in organ and cornea donation and transplantation procedures, were also present. Airplane pilots and representatives of numerous professional and support services were also present. Patients who needed a transplant expressed their gratitude directly to all the experts and relatives of the donors by giving them flowers.

At the press conference, Nina Žitek (38 years old), a social worker and president of the patients Slovenian Transplant Association, who was diagnosed with autoimmune hepatitis at the age of six and received a liver transplant 11 years ago, made the following statement: *"Life after transplantation is entirely different. I am so grateful every day for the opportunity that I can live. For me, the path to transplantation has been long and challenging. When I think about the whole process, from the preparations to the transplant itself and the rehabilitation after the procedure, I realise how many doctors, nurses and other health care workers were involved in my support. If I could, I would shake hands with each of them and honestly say thank you."*



The exhibition Circle of gratitude and cooperation has been travelling through Slovenia. You are cordially invited to visit it in a place near you.

*Photos:
Celebration of the European Donation Day 2024 in Slovenia:
press conference and opening of the exhibition
Circle of gratitude and cooperation, 18th of October 2024,
the main hall at the UMC Ljubljana. Photo: Ela Zdešar.*





Photos:
Celebration of the European Donation Day 2024 in Slovenia:
press conference and opening of the exhibition Circle of gratitude and
cooperation, 18th of October 2024, the main hall at the UMC Ljubljana.
Photo: Ela Zdešar.



Photos up and on the right: The annual review meeting for partners of the EU funded BRAVEST project, The Brdo pri Kranju estate, March 2024. Photo: Slovenija-transplant.



Photo on the left: Andrej Gadžijev, director of Slovenija-transplant, during the paper presentation at the international DCD Consensus symposium, Bucharest, 10.-12. October 2024. Photo: Slovenija-transplant.



In October 2024, Slovenija-transplant published a new brochure with answers to frequent questions about organ donation in Slovenia. Brochure contains a lovely sticker I am an organ donor.

Photos: first and last page of the new brochure. Photo: Slovenija-transplant.

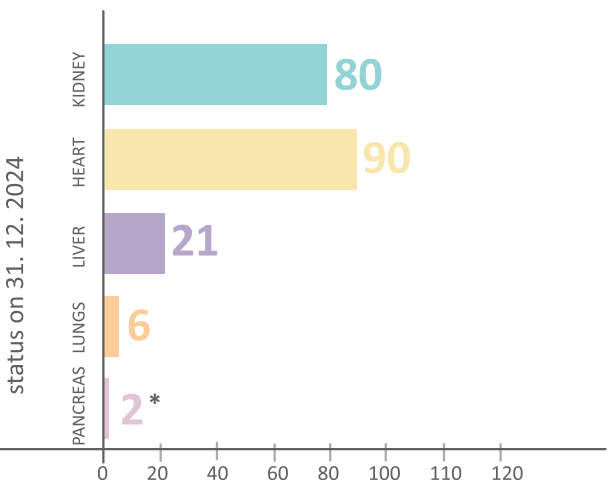
SOLID ORGANS

NATIONAL WAITING LIST FOR ORGAN TRANSPLANTATION

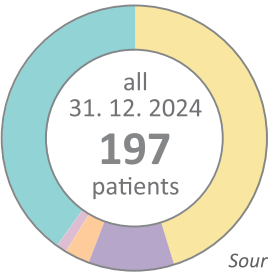
The waiting list is a list of patients waiting for treatment with transplantation of organ. The indications for transplantation are specific to each organ/tissue/cell. All patients in the Republic of Slovenia have the possibility of being included on the list of recipients and have equal access to this treatment. At the end of 2024, 197 patients were waiting for an organ transplant. The number was slightly higher compared to the previous year, especially for the heart waiting list. The average waiting period for all organs is relatively short compared to Eurotransplant or EU countries. On average, Slovenian patients wait for a heart, liver or kidney transplant for less than 1 year. For more information on average waiting periods for specific organs, please see the chapter Follow-up results.

In 2024, 155 Slovenian patients were included on the Eurotransplant's waiting list for the first time: 76 for a kidney, 44 for a heart, 8 for a lung, 25 for a liver and 2 for pancreas transplantation. 14 patients were placed on a waiting list for retransplantation: 8 for kidney, 1 for heart, 1 for lungs and 4 for liver retransplantation.

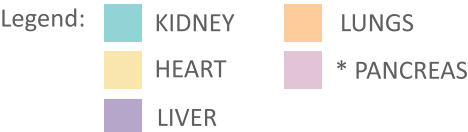
Status of the national waiting list on 31.12.2024 (all patients)



Share of patients on the national waiting list by organ in 2024.



Source: <http://statistics.eurotransplant.org/>



* In combination with transplantation of kidney.

Status of the national waiting list in the 2011–2024 period
(as at 31.12.2024, all patients)

YEAR	KIDNEY	HEART	LIVER	LUNGS*	PANCREAS	TOTAL
2011	120	46	17			183
2012	113	38	18		2	169
2013	114	39	19		1	171
2014	136	31	21		11	188
2015	110	52	29		11	190
2016	95	58	28		7	181
2017	112	56	35		8	203
2018	135	65	35		6	234
2019	138	55	35		5	227
2020	115	53	32	5	4	204
2021	97	57	21	3	4	177
2022	82	60	16	5	3	161
2023	76	79	19	8	3	183
2024	80	90	21	6	2	197

KIDNEY 
 HEART 
 LIVER 
 LUNGS 
 PANCREAS 

*Before September 2020, Slovenian patients waiting for a lung transplant were included on the Austrian waiting list .

Source: <http://statistics.eurotransplant.org/>

Waiting list mortality for the 2011–2024 period

The following data show the number of patients who were included on the waiting list for an organ transplant and died during the waiting period. The cause of death was not always related to the failure of the organ for which they were waiting to be transplanted.

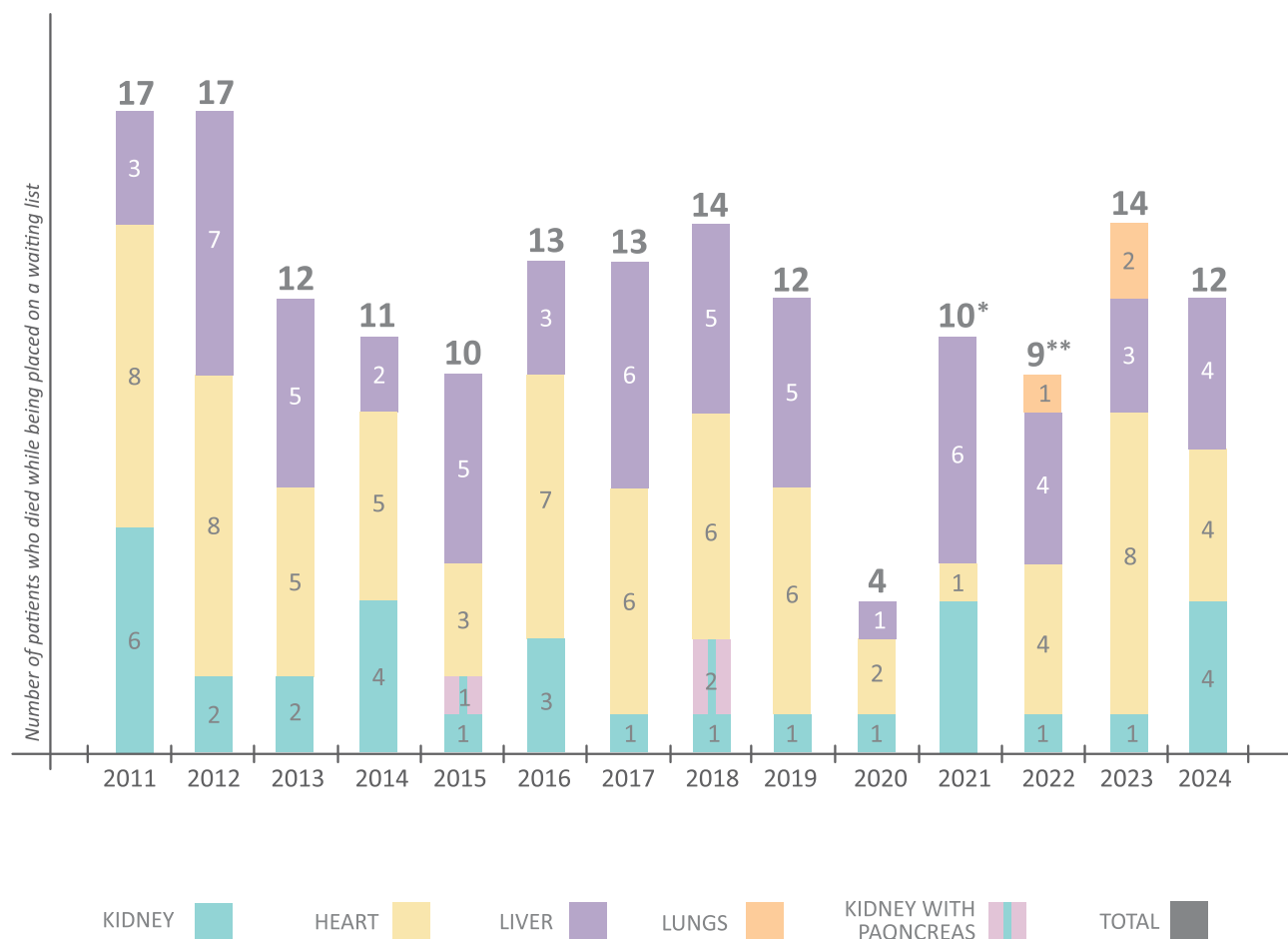
YEAR	KIDNEY	KIDNEY WITH PANCREAS	HEART	LIVER	LUNGS	TOTAL
2011	6		8	3		17
2012	2		8	7		17
2013	2		5	5		12
2014	4		5	2		11
2015	1	1	3	5		10
2016	3		7	3		13
2017	1		6	6		13
2018	1	2	6	5		14
2019	1		6	5		12
2020	1		2	1		4
2021	4		1	6		10*
2022	1		4	4	1	9**
2023	1		8	3	2	14
2024	4		4	4		12

* One deceased patient was waiting for a combined kidney and liver transplant.

** One deceased patient was waiting for a combined kidney and liver transplant.

Source: <http://statistics.eurotransplant.org/>

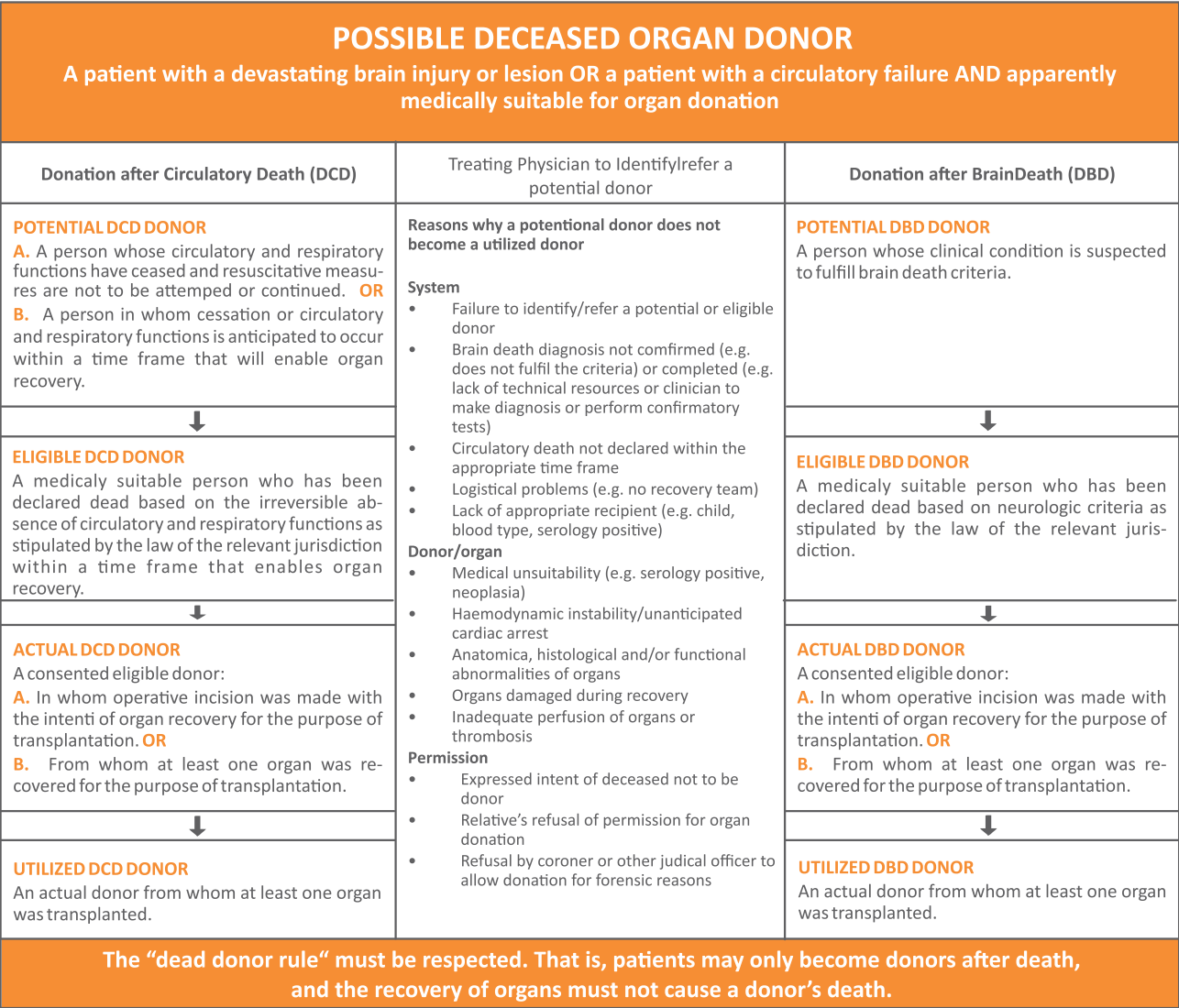
Trends in waiting list mortality for the 2011–2024 period



Source: <http://statistics.eurotransplant.org/>

THE CRITICAL PATHWAY FOR ORGAN DONATION

Source: The Madrid Resolution on Organ Donation and Transplantation.



NUMBER OF DECEASED DONORS

In 2024, Slovenian donor hospitals acquired 47 actual deceased donors who were medically suitable and for whom family consent had been obtained.

First the data bellow demonstrate the number of actual deceased donors in first 45 countries in the world in 2023 (more reliable data for the year 2024 is available only at end of 2025).

After the details of the number of utilized deceased donors are shown. Compared to Eurotransplant member countries, Slovenia ranks fourth in the number of utilized deceased donors per million people (PMP) in 2024. The result is higher than the Eurotransplant average.

Number of actual deceased donors (DD) per million people (PMP) in the world (year 2023)

Country	Nr. of DD/PMP 2023
1. Spain	49,40
2. USA	48,00
3. Portugal	36,80
4. Belgium	32,70
5. Slovenia	30,50
6. Italy	29,40
7. Croatia	29,00
8. Czech Republic	28,50
9. Finland	28,20
10. France	27,60
11. Belarus	25,30
12. Sweden	25,20
13. Iceland	25,00
14. Canada	24,54
15. Estonia	23,10
16. Switzerland	22,70
17. Great Britain	22,35
18. Norway	22,30
19. Austria	20,90
20. Uruguay	19,70
21. Lithuania	19,60
22. Australia	19,40
23. Denmark	19,20

Country	Nr. of DD/PMP 2023
24. Ireland	18,60
25. Argentina	17,50
26. Brazil	17,40
27. Netherlands	17,30
28. Latvia	13,90
29. Poland	13,80
30. Hungary	12,80
31. New Zeland	12,30
32. Slovakia	11,70
33. Izrael	11,60
34. Germany	11,60
35. Luxembourg	10,00
36. Chile	9,80
37. South Korea	9,30
38. UAE	9,20
39. Greece	8,40
40. Kuwait	7,70
41. Colombia	7,40
42. Qatar	7,40
43. Cyprus	6,90
44. Thailand	6,20
45. Equador	4,80

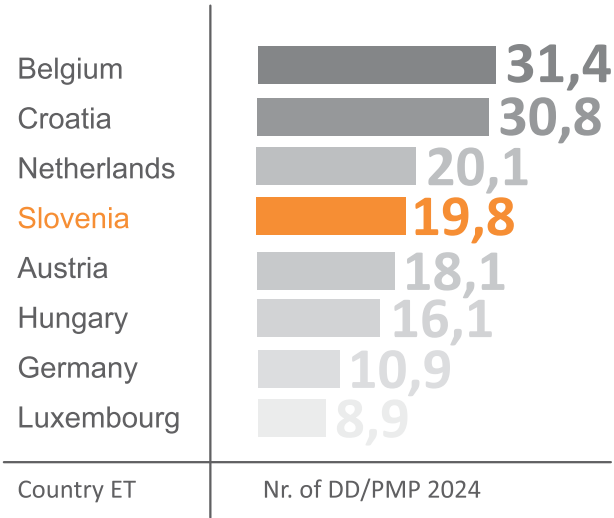
Source: Newsletter Transplant, vol. 29 (2024), p. 74, EDQM.

Number of utilized deceased donors (DD) per million people (PMP) in Slovenia in 2024 and a comparison with all Eurotransplant countries

	Slovenia	Eurotransplant
Nr. of DD	42	2.181
DD/PMP	19,8	15,4

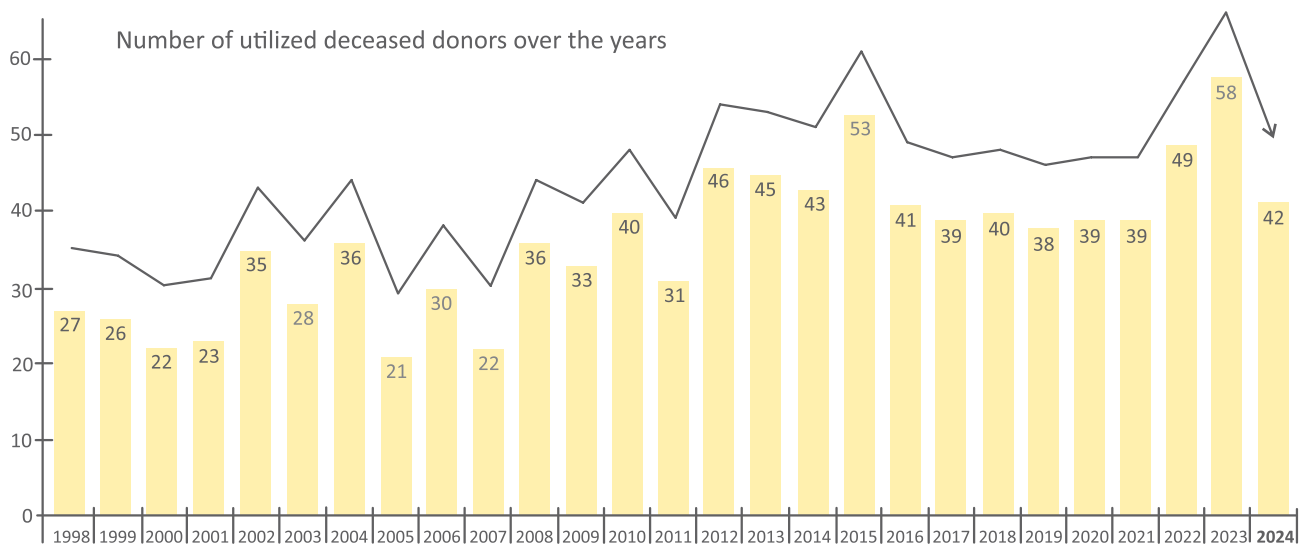
Source: <http://statistics.eurotransplant.org/>

Number of utilized deceased donors per million people (DD/PMP) and a comparison with other Eurotransplant countries in 2024

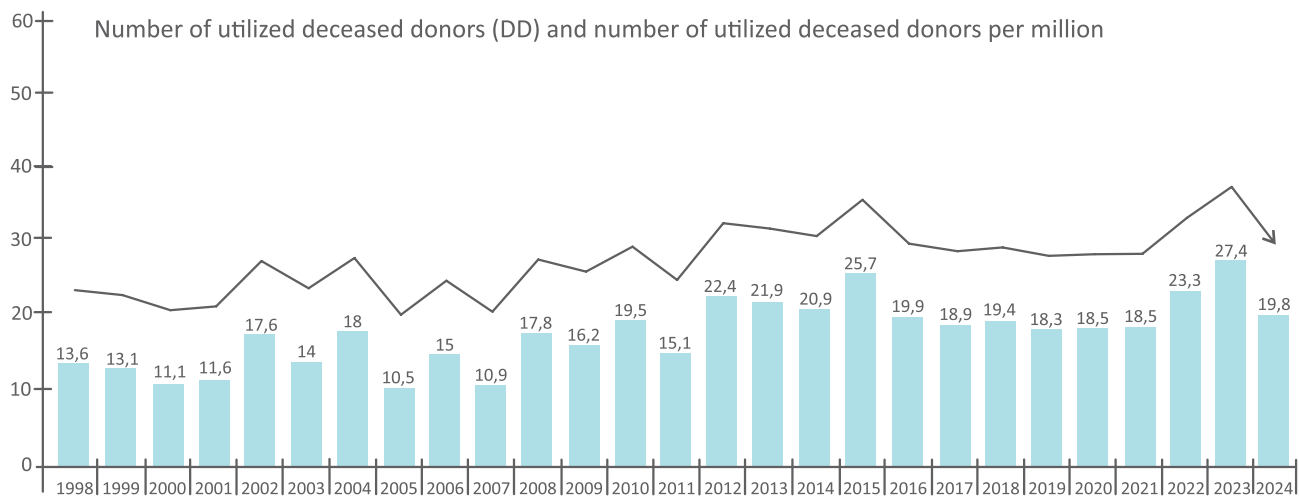


Source: <http://statistics.eurotransplant.org/>.

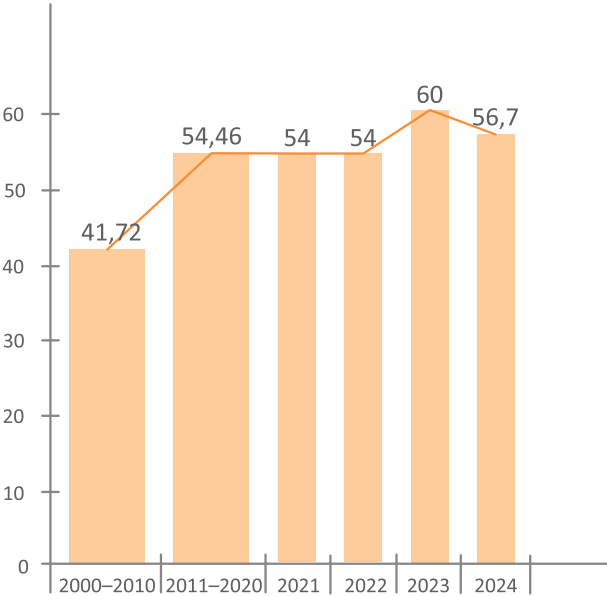
Number of utilized deceased donors (DD) and number of utilized deceased donors per million people (DD/PMP) in Slovenia in the 1998–2024 period



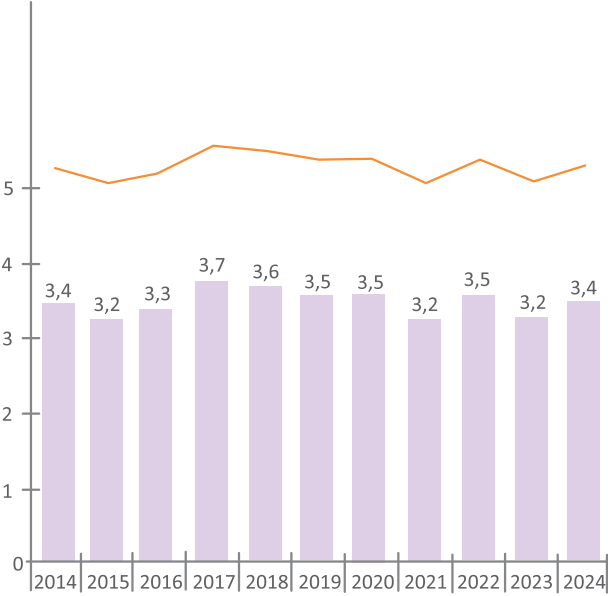
Total number of utilized deceased donors in Slovenia from 1998 till 2024: **982**



Average age of deceased donors (DD) in Slovenia 2000-2024



Average number of organs procured per deceased donor in Slovenia (DD) 2014-2024



Sources:

- Danica Avsec, Jana Šimenc. *Twenty Years of Deceased Organ Donation in Slovenia: Steps Towards Progress in Quality, Safety, and Effectiveness*. *American Journal of Health Research*. Vol. 9, No. 3, 2021, pp. 82-88. doi: 10.11648/j.ajhr.20210903.13;
- Archives of Slovenija-transplant.

NATIONAL DONOR REGISTER

Every Slovenian citizen has the right to autonomously decide on post-mortem organ and tissue donation during their lifetime. Since June 2017, a possibility to declare against organ donation has been implemented. Individual decision is formally confirmed when it is entered in the national donor register, which was established back in 2004. The donor declaration can be signed electronically with a digital signature on the eAdministration (“eUprava”) portal (<https://e-uprava.gov.si/>) or personally at one of the many authorised donor registration points around Slovenia (a detailed list is published at www.slovenija-transplant.si).

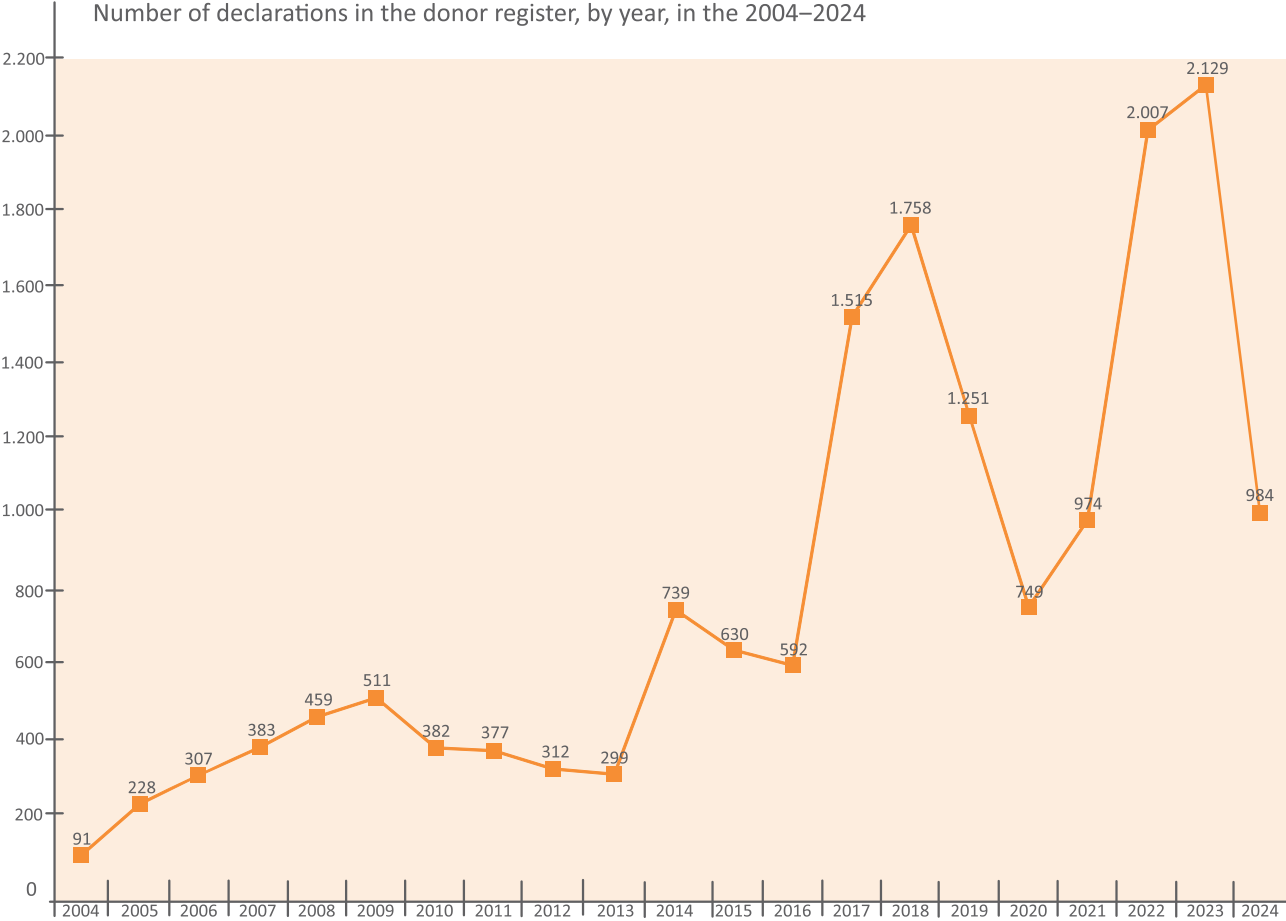
In 2024, a total of 984 people have enrolled in the national register. Only 24 have declared against donation. As at 31 December 2024, 16,669 declarations were entered on the register (16,535 for and 134 against post-mortem donation).

Number of declarations in the donor register, by year, in the 2004–2024 period

Year	Nr. of declarations
2004	91
2005	228
2006	307
2007	383
2008	459
2009	511
2010	382
2011	377
2012	312
2013	299
2014	739
2015	630

Year	Nr. of declarations
2016	592
2017	1.515
2018	1.758
2019	1.251
2020	749
2021	974
2022	2.007
2023	2.129
2024	984
Total	16.669

Source: Archives of Slovenija-transplant.

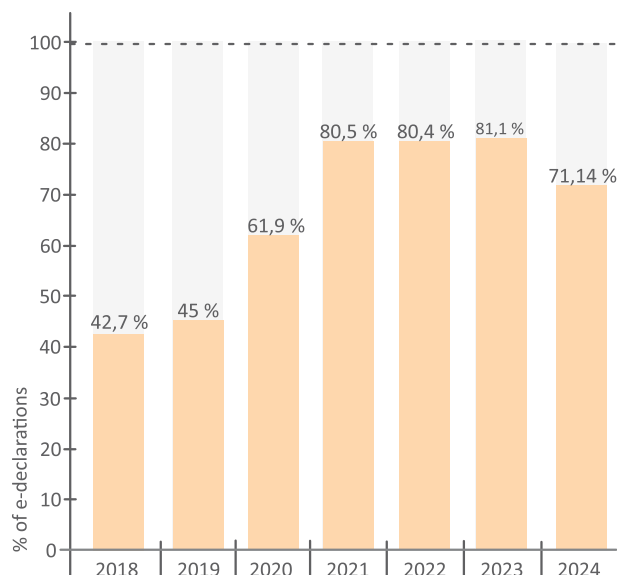


Source: Archive of Slovenija-transplant.

Proportion of declarations submitted electronically

Since 2018, when it became possible to submit electronic declaration, 6,588 people have used this option. In 2024, 71,14% of declarations were submitted electronically. The data below show that an increasing proportion of people use electronic option of registration each year.

Proportion of declarations submitted electronically in the 2018-2024 period

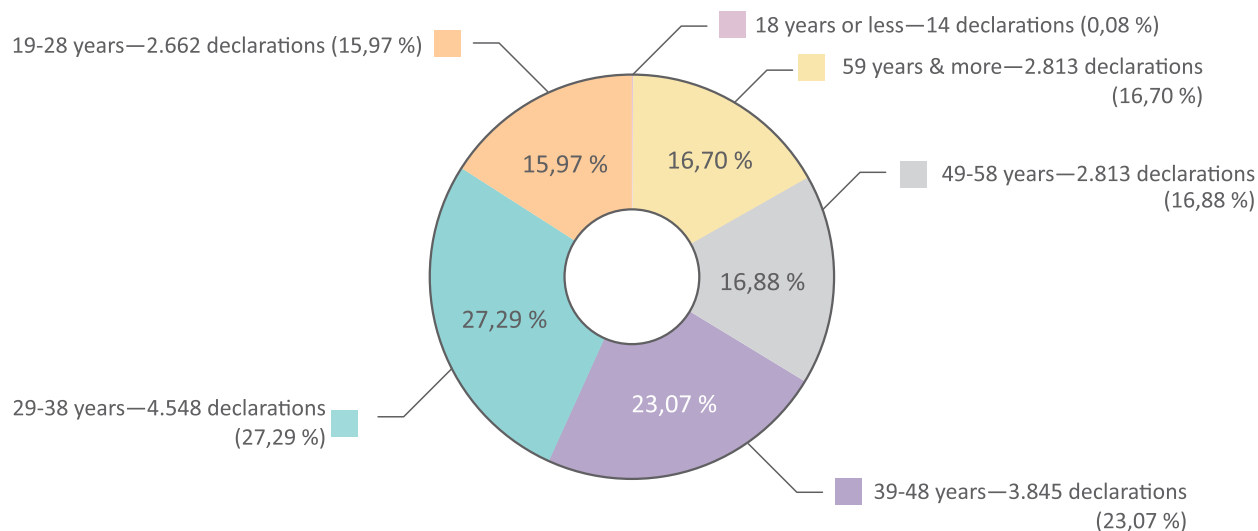


Age of registered persons

At the end of 2024, the average age of those registered was 43. The largest proportion of registrations were submitted by people in the 29-39 age group.

More detailed data on the number and percentage of registrants by age group can be found below.

Number and percentage of registered persons by age group 2004-2024



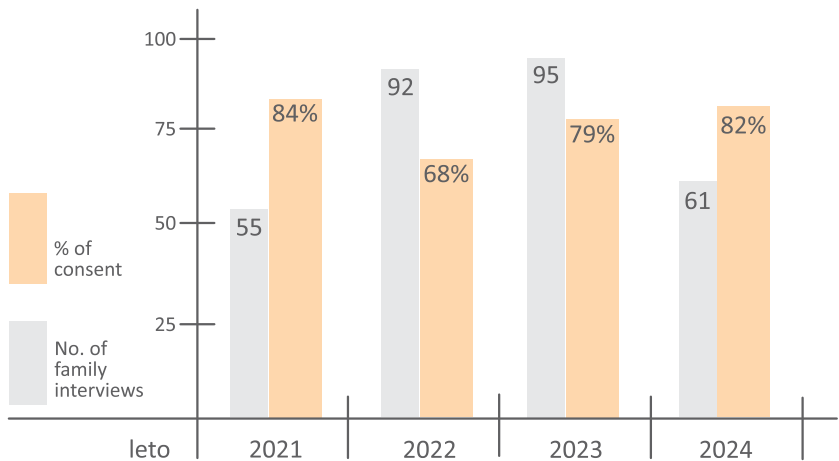
CONSENT RATE FOR DONATION

In Slovenia, organ donation is not possible without the consent of the relatives of the potential donor. It is only after the death has been confirmed and the time of death registered that the transplantation co-ordinator checks the donor register. Despite knowing about the designation, a conversation with the deceased person's close relatives about donation is conducted. During this conversation, transplant coordinators try to determine what the deceased person's position was regarding after-death organ donation. If consent by the relatives is given, medical data important for the donation is obtained in the further course of the conversation.

If the will of the deceased is unknown, the close relatives make the decision. In this case, the conversation is significantly more difficult for the medical staff and especially for the family. All procedures are carried out with a high degree of sensitivity, understanding of the extremely difficult emotional circumstances and in line with the legislative provisions and medical doctrine.

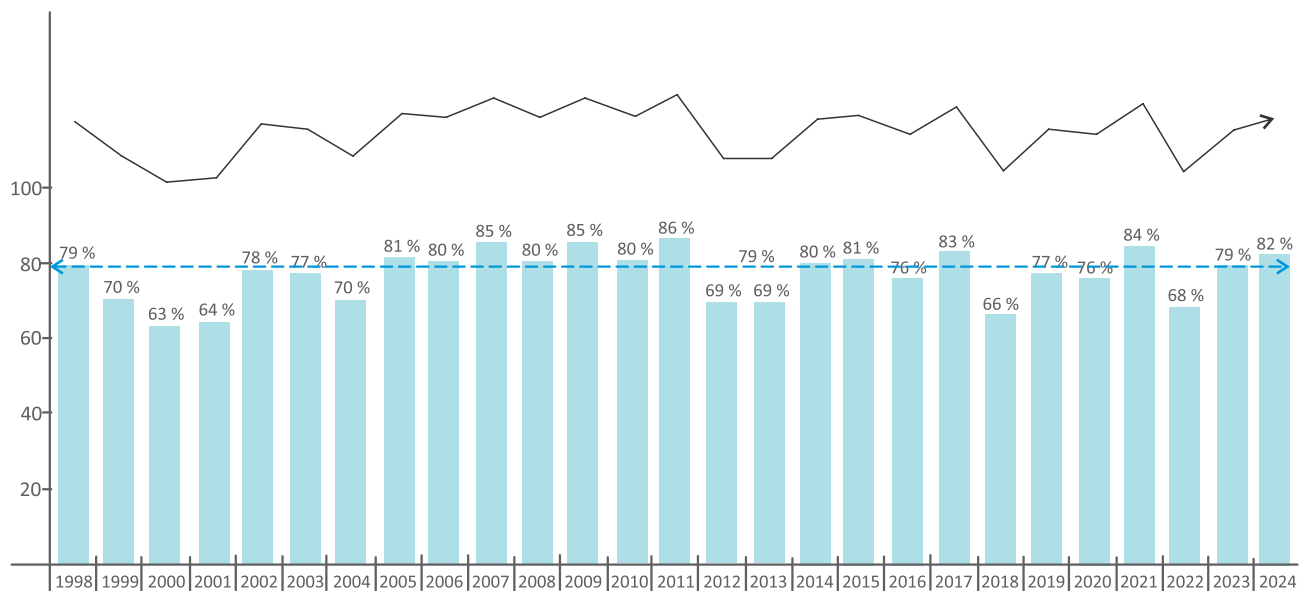
In 2024, 82% of relatives agreed to organ donation after the death of their family member. The rate of the consent for donation was in 2024 among the highest over the last years.

Number of conducted family interviews and consent for donation in the 2021-2024 period



Source: Archive of Slovenija-transplant.

Percentage of consent for donation in the 1998–2024 period



Source: Archive of Slovenija-transplant.

Intensive training course TPM for health professionals, organized in collaboration with Spanish organisation DTI, 3-5 April 2024, Logarska Valley.

Photo:
Archive of Slovenija-transplant.



11th Transplant Procurement Management Training Course
Slovenia. 3-5 April, 2024



ACTIVITIES IN THE DONOR CENTRES

Eleven donor hospitals are active in the Slovenian donor programme: the Ljubljana UMC and Maribor UMC and the general hospitals in Celje, Murska Sobota, Nova Gorica, Izola, Ptuj, Novo mesto, Slovenj Gradec, Jesenice and Brežice.

The following activities are performed in a donor centre:

- identification of potential deceased donors;
- diagnostics of brain death;
- evaluation of the suitability of organs and tissues for removal and transplantation;
- communication with the relatives of the deceased about the possibility of organ donation;
- maintenance of the functioning of deceased donors' organs – in intensive care and during organ removal; and
- participation in organ- and tissue-removal procedures performed by Slovenian and foreign teams of surgeons.

List of authorised persons (hospital transplantation coordinators) in charge of the development, implementation and functioning of the donor programme in individual donor centres in 2024

Hospital	Responsible person	Hospital	Responsible person
Ljubljana UMC:	prim. asist. mag. Rade Stanić, MD.	GH Novo Mesto:	Matej Godnič, MD
Maribor UMC:	Iva Cestar, MD	GH Ptuj:	Mateja Prevolšek, MD
GH Celje:	Barbara Hudournik, MD	GH Slov. Gradec:	Rok Popič, MD
GH Brežice:	Igor Đarmati, MD	GH Jesenice:	Andraž Nastran, MD
GH Izola:	Maja Ivartnik Merkač, MD	GH Nova Gorica:	Edyta Čerkini, MD
GH M. Sobota:	Alja Beznec, MD		

The highest number of donors is provided by the Ljubljana UMC, where the largest intensive care units are located. Good results are also achieved in Maribor UMC and General Hospital Celje.

Number of eligible and utilized deceased donors by donor centers in 2024

Donor hospital	Eligible DD	Utilized UD
Ljubljana UMC total	26	15
- Of which NICU*	9	5
- Of which CICU	10	7
- Of which CDIIM	7	3
Maribor UMC total**	18	16
- Of which SICU and PICU	7	6
- Of which IICU	11	10
GH Celje total	11	6
- Of which SICU	6	4
- Of which IICU	5	2
GH Murska Sobota	3	2
GH Slovenj Gradec	0	0
GH Nova Gorica	2	1
GH Ptuj	0	0
GH Brežice	1	1
GH Novo mesto	1	0
GH Izola	1	1
GH Jesenice	0	0
Total	63	42

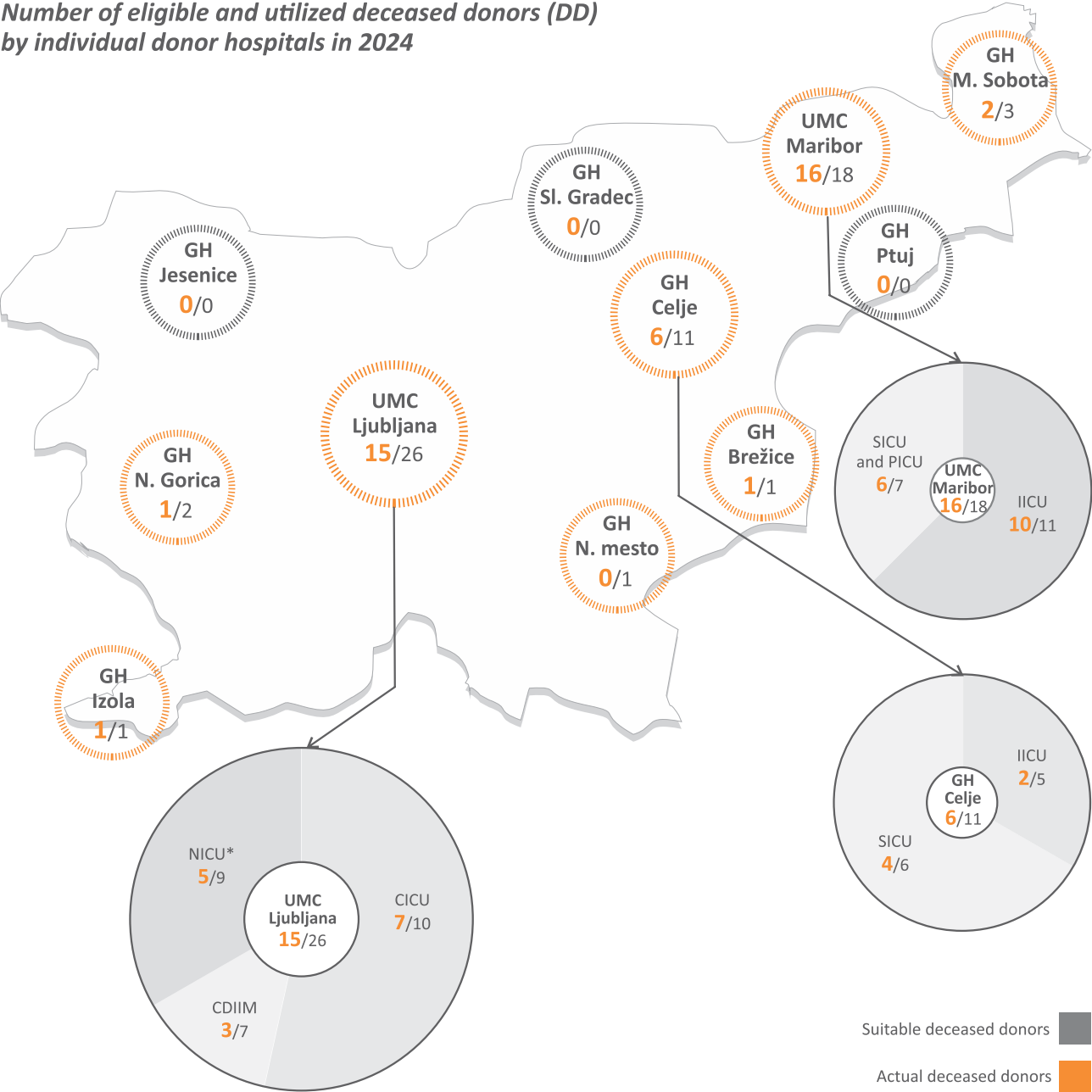
Source: Archive of Slovenija-transplant.

*NICU – Neurological Intensive Care Unit, CICU – Central Intensive Care Unit,
CDIIM – Clinical Department of Internal Intensive Medicine,
CDPSIT – Clinical Department of Paediatric Surgery and Intensive Therapy,
CVICU – Cardiovascular Intensive Care Unit,
RC – Respiratory Centre

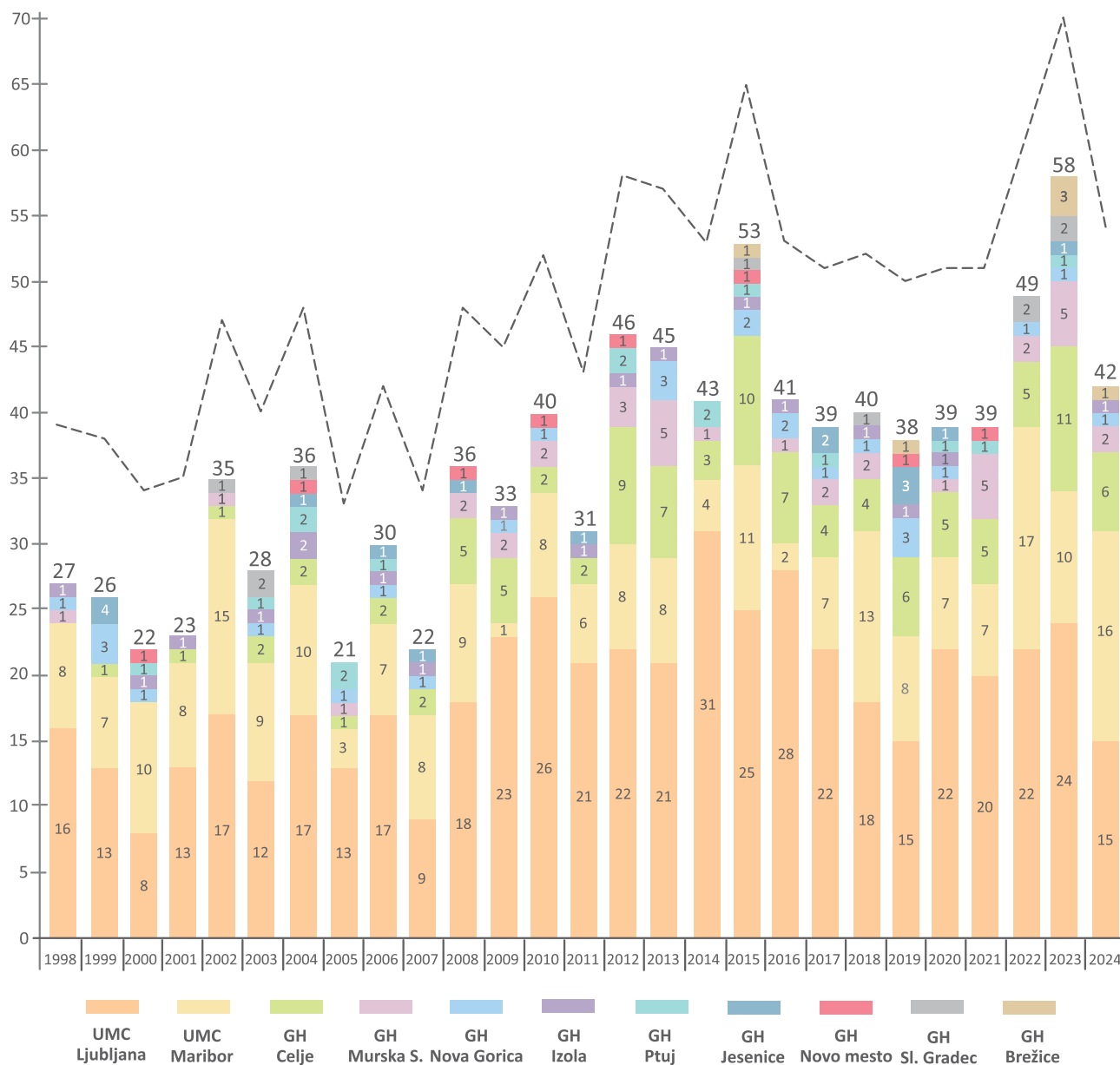
**SICU – Surgical Intensive Care Unit;
IICU – Internal Intensive Care Unit,
PICU- Pediatric Intensive Care Unit



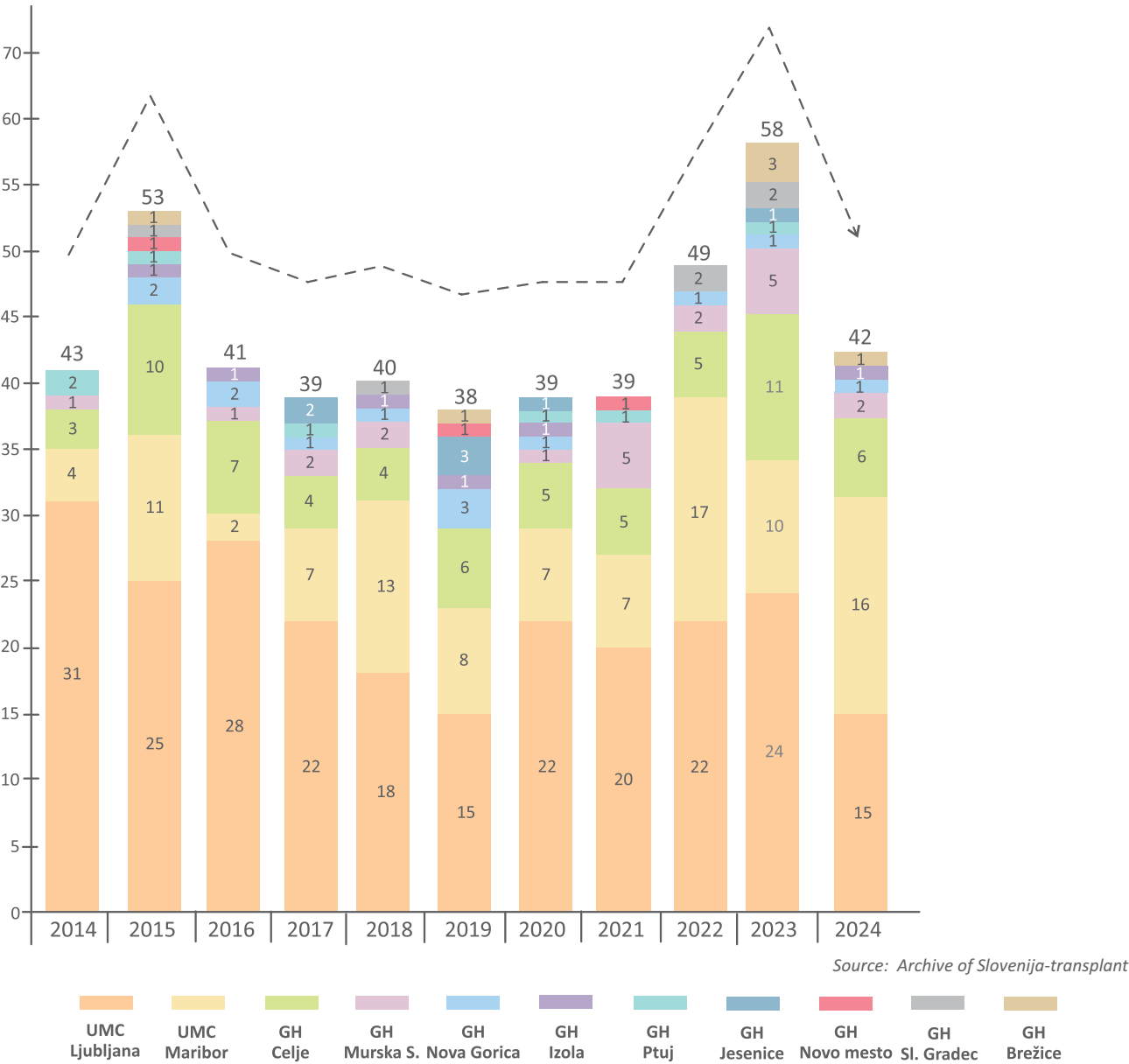
*Number of eligible and utilized deceased donors (DD)
by individual donor hospitals in 2024*



Number of utilised deceased donors by donor centres in the 1998–2024 period



Number of utilised deceased donors by donor centres in the 2014–2024 period



POTENTIAL AND REALISATION IN DONOR HOSPITALS

The donation potential of an individual donor hospital is expressed as the proportion of brain-dead donors of the total number of deaths in the intensive care unit (ICU). It indicates the number of deaths where the diagnostic of brain death was completed. The potential is directly connected to the identification of eligible donors in ICUs.

Realisation in the donation process indicates the number of eligible donors (confirmed brain death) who became actual donors. It is expressed as the proportion of actual donors to the total number of deaths due to brain death in ICUs.

Potential and realisation in donor hospitals in 2024

Donor hospital	all deaths in the ICU	PD	ED	*potential	available	AD	**realisation	available
Ljubljana UMC	370	40	26	7,0 %	13,7 %	17	65 %	65 %
Maribor UMC	208	45	18	8,6 %	13,7 %	17	94 %	65 %
Celje GH	130	13	11	8,5 %	8,3 %	7	64 %	55 %
Novo mesto GH	95	7	1	1,1 %	8,3 %	0	/	55 %
Murska Sobota GH	107	3	3	2,8 %	8,3 %	2	67 %	55 %
Nova Gorica GH	82	6	2	2,4 %	8,3 %	2	100 %	55 %
Ptuj GH	86	0	0	0,0 %	8,3 %	0	/	55 %
Izola GH	59	3	1	1,7 %	8,3 %	1	100 %	55 %
Slovenj Gradec GH	43	1	0	0,0 %	8,3 %	0	/	55 %
Jesenice GH	40	0	0	0,0 %	8,3 %	0	/	55 %
Brežice GH	29	1	1	3,4 %	8,3 %	1	100 %	55 %

Source: Archive of Slovenija-transplant.

Legend:

ICU – intensive care unit

PD – potential donor

ED – eligible donor (confirmed brain death)

AD – actual donor (relatives' consent, organ removal)

Potential – % of brain-dead patients in total number of deceased persons in the ICU = % ED/total deaths in the ICU

Realisation – % of actual donors in total number of brain-dead patients = % AD/ED

Donor hospital's potential

** In 2024, UMC Maribor improved its potential compared to 2023 and came closest to its maximum donor potential. The good results were achieved thanks to the excellent work of the hospital coordinators and the performance of the so-called ICOD programme. The potential at UMC Ljubljana was slightly lower compared to 2023. The total number of deaths in the ICU was higher in 2024 than in 2023, but the detection and confirmation of brain death patients was one third lower (2023: 37, 2024: 26). The lower results are partly a consequence of staff shortages and lack of operating rooms at UMC Ljubljana, where many logistical and organisational obstacles are due to the on-going energy refurbishment of the buildings.*

As expected, a donor hospital's potential is higher among hospitals which operate their own neurosurgical unit and can even reach up to 13.7% (available potential). In hospitals without their own neurosurgical unit, the available donation potential reaches up to 8.3%.

In 2024, the Celje General Hospital clearly stands out from all others. With an achieved potential of 8.5%, it is the second year that is significantly above the expected results. The other donor hospitals did not come close to their donor potential. Some of the deceased donors were discovered in GH Brežice, GH Murska Sobota, GH Nova Gorica, GH Izola and GH Novo mesto. No eligible deceased donors were detected in 3 donor hospitals: Slovenj Gradec GH, Ptuj GH and Jesenice GH.

All hospitals had to struggle with organisational and staffing problems due to the year-long doctors' strike. Work motivation dropped significantly.

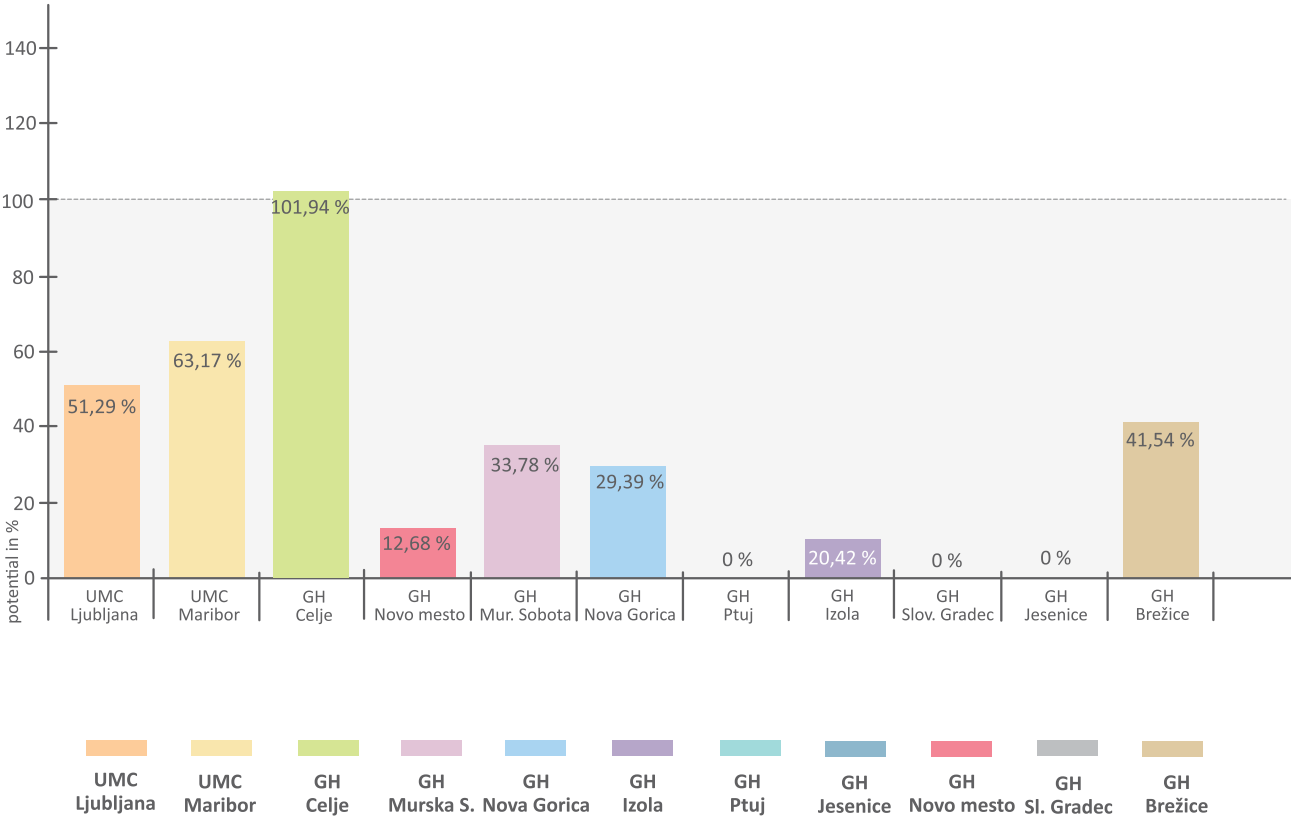
Donor hospital's realization

*** In 2024, the available realisation was exceeded by 6 donor hospitals with at least one actual donor. The refusal rate was significantly lower in most hospitals compared to 2023 (in UMC Ljubljana from 20% to 6%, and there was no refusal for donation and 100% realisation in all hospitals who achieved one eligible donor, that is in general hospitals in Murska Sobota, Nova Gorica and Brežice).*

The results in the area of realisation are so good because the teams responsible for identifying donors in the intensive care units and, in the case of some donor hospitals, also in the emergency unit as part of the ICOD programme mentioned above, did an excellent job in 2024. Other reasons for the good results are the low number of medical contraindications to organ donation (14,3%) and the low overall family refusal rate (17,5%).

In hospitals where there were no confirmed brain deaths in 2024 (Ptuj GH, Slovenj Gradec GH, Jesenice GH) and no actual donors, the potential and the realisation were both 0% or un-measurable (/).

Reached potential in donor hospitals in 2024



SOLID ORGANS PROCURED FOR THE PURPOSE OF MEDICAL TREATMENT

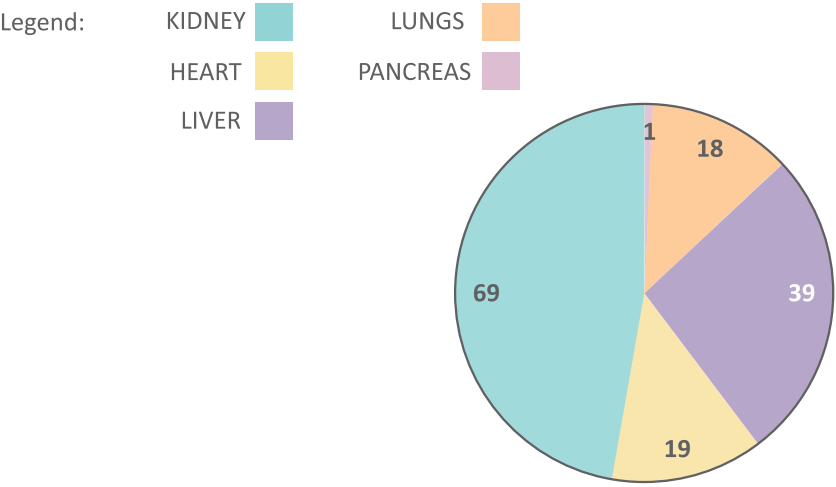
The number of organs procured depends on the number of deceased donors procured, together with age, any medical contraindications and appropriate brain-dead donor maintenance. In 2024, 47 deceased donors donated 146 solid organs for transplantation. That is 3.4 organs per donor, which is even better result than the very successful year 2023. The work of the hospitals' transplant coordinators in fostering a eligible donor was exceptional, so we were also able to procure more organs.

The data for 2024 and a comparison with previous years can be found below.

Number of procured organs of Slovenian deceased donors in 2024

Kidney	Heart	Liver	Lungs (both lobes)	Pancreas	Total
69	19	39	18	1	146

Source: Archive of Slovenija-transplant.



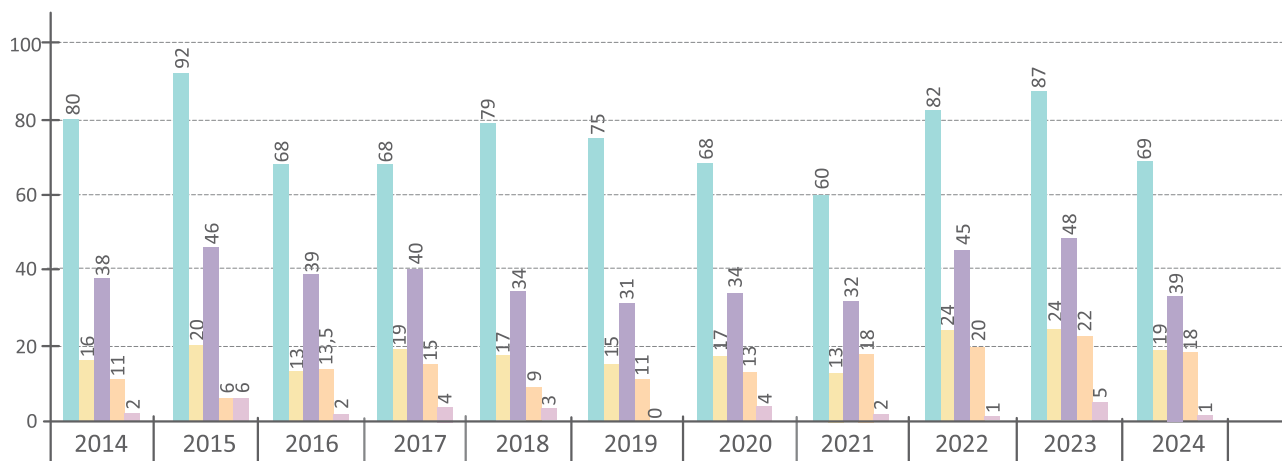
Procured organs of Slovenian deceased donors in the 2000–2024 period

Year	Kidney	Heart	Liver	Lungs (both lobes)	Pancreas	Total
2000–2013	872	234	356	114,5	102	1678,5
2014	80	16	38	11	2	147
2015	92	20	46	6	6	170
2016	68	13	39	13,5	2	135,5
2017	68	19	40	15	4	146
2018	79	17	34	9	3	142
2019	75	15	31	11	0	132
2020	68	17	34	13	4	136
2021	60	13	32	18	2	125
2022	82	24	45	20	1	172
2023	87	24	48	22	5	186
2024	69	19	39	18	1	146
Total	1.700	431	782	271	132	3.316

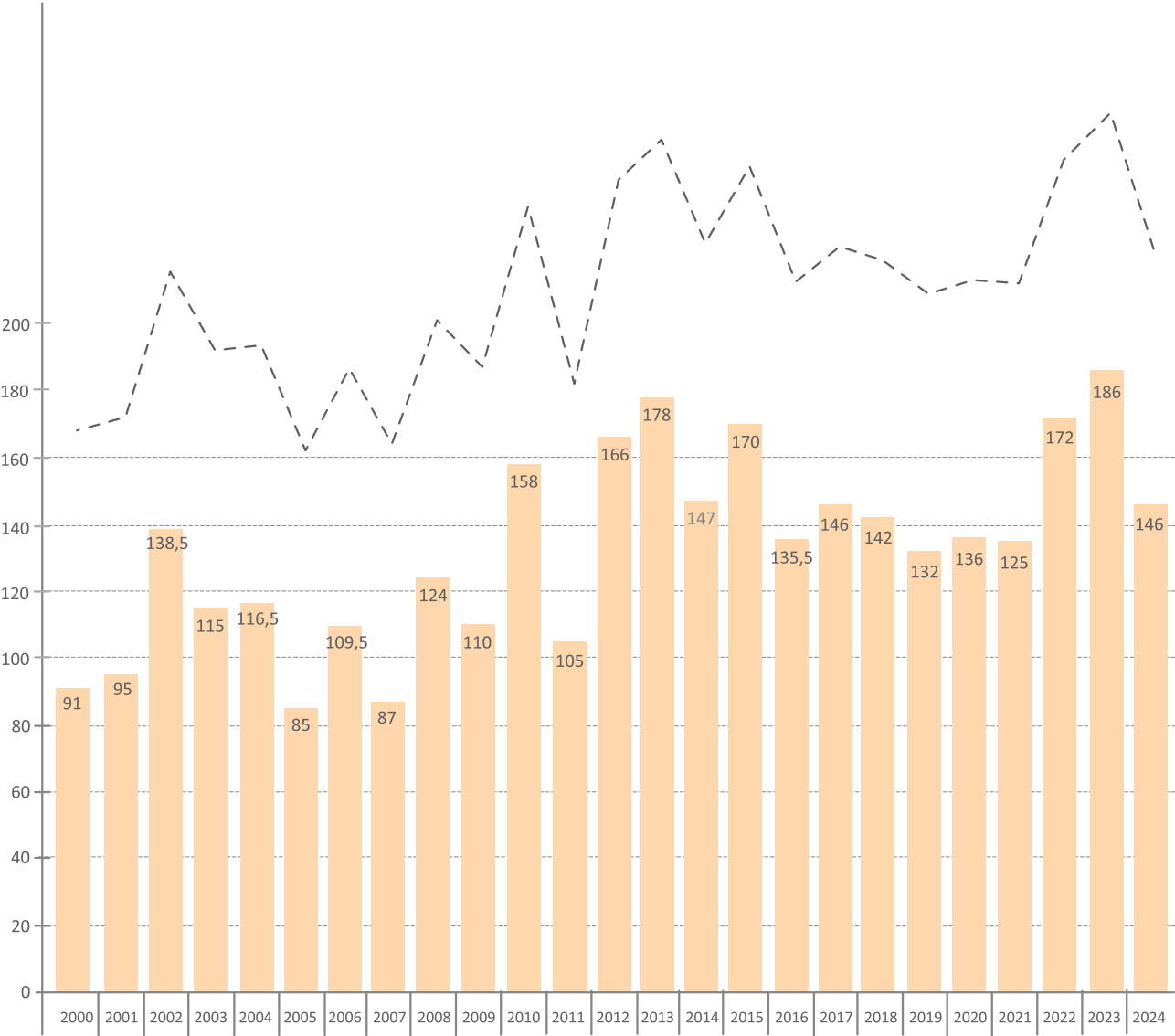
Source: Archive of Slovenija-transplant.

KIDNEY HEART LIVER LUNGS PANCREAS

Procured organs of Slovenian deceased donors in the 2014–2024 period



Total number of procured organs of Slovenian deceased donors in the 2000–2024 period



Source: Archive of Slovenija-transplant.

TRANSPLANTED SOLID ORGANS

Slovenia has only one transplantation centre – the Ljubljana University Medical Centre – where organ transplant programmes are carried out. The organ allocation system ensures equal access to medical treatment with organ transplantation for all Slovenian citizens. The tasks of the transplantation centre include:

- the preparation of recipients for inclusion on the waiting list;
- organ transplantation; and
- the care of patients after transplantation.

Since 2014, the Transplantation centre at UMC Ljubljana has been headed by cardiovascular surgeon Dr Ivan Knežević, MD.

In 2024, 103 organs were transplanted, 101 from deceased donors and two kidneys from a living donor. The most frequently transplanted organ is the kidney and we are slightly above the average for Eurotransplant countries in terms of the number of all transplantations from deceased donors per million people. The number of hearts transplanted per million people is significantly higher. In 2024 Slovenia ranked second place worldwide and in first place among the Eurotransplant countries.

Paediatric transplantations are partly performed at the UMC in Ljubljana and for younger children (under 30 kilos) in nearby experienced European transplantation centres (kidneys in Graz, livers in Bergamo, Hamburg and other centres). In 2024, the UMC in Ljubljana successfully performed extremely rare heart transplantation on a 6-month old child. One kidney was transplanted to Slovenian child in Graz and two livers in Bergamo, Italy and one liver in Hamburg (Germany). No paediatric lung transplantation was performed on a Slovenian child. The relevant departments at the UMC of Ljubljana are responsible for the treatment and preparation before the organ transplantation as well as for the medical treatment and monitoring of the patients after the transplantation. For more information, see chapter PAEDIATRIC TRANSPLANTATIONS.

Transplanted solid organs from deceased donors in the Ljubljana UMC in 2024 and a comparison with Eurotransplant – absolute number and per million people (PMP)

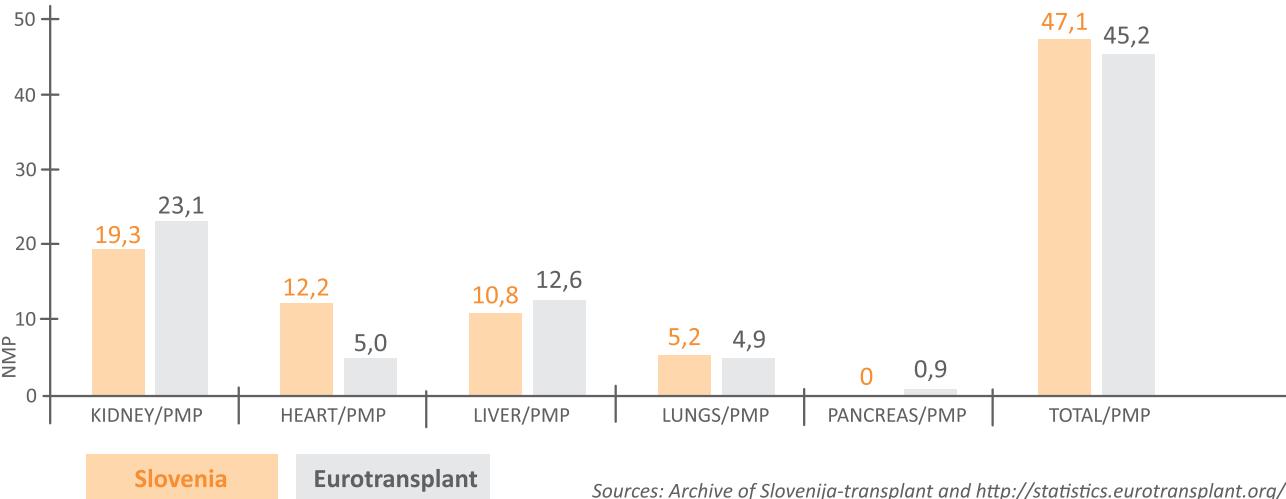
	Kidney		Heart		Liver		Lungs		Pancreas		Total	
	Nr.	PMP	Nr.	PMP	Nr.	PMP	Nr.	PMP	Nr.	PMP	Nr.	PMP
SLO	41	19,3	26	12,2	23	10,8	11	5,2	0	0	103	47,1
ET	3.007	23,1	681	5	1.612	12,6	686	4,9	141	0,9	7.153*	45,2

Sources: Archive of Slovenija-transplant and <https://statistics.eurotransplant.org/>

* V skupno število so šteti tudi organi, ki niso zajeti v tabeli, in so bili presajeni izven držav Eurotransplanta, v sklopu drugih mednarodnih programov izmenjav organov in tkiv. Prav tako so štete presaditev t.i. »split liver« in druge oblike presaditev, ki jih v Sloveniji ne izvajamo.

KIDNEY HEART LIVER LUNGS PANCREAS

Transplanted solid organs from deceased donors in the Ljubljana UMC in 2024 and a comparison with Eurotransplant – per million people (PMP)

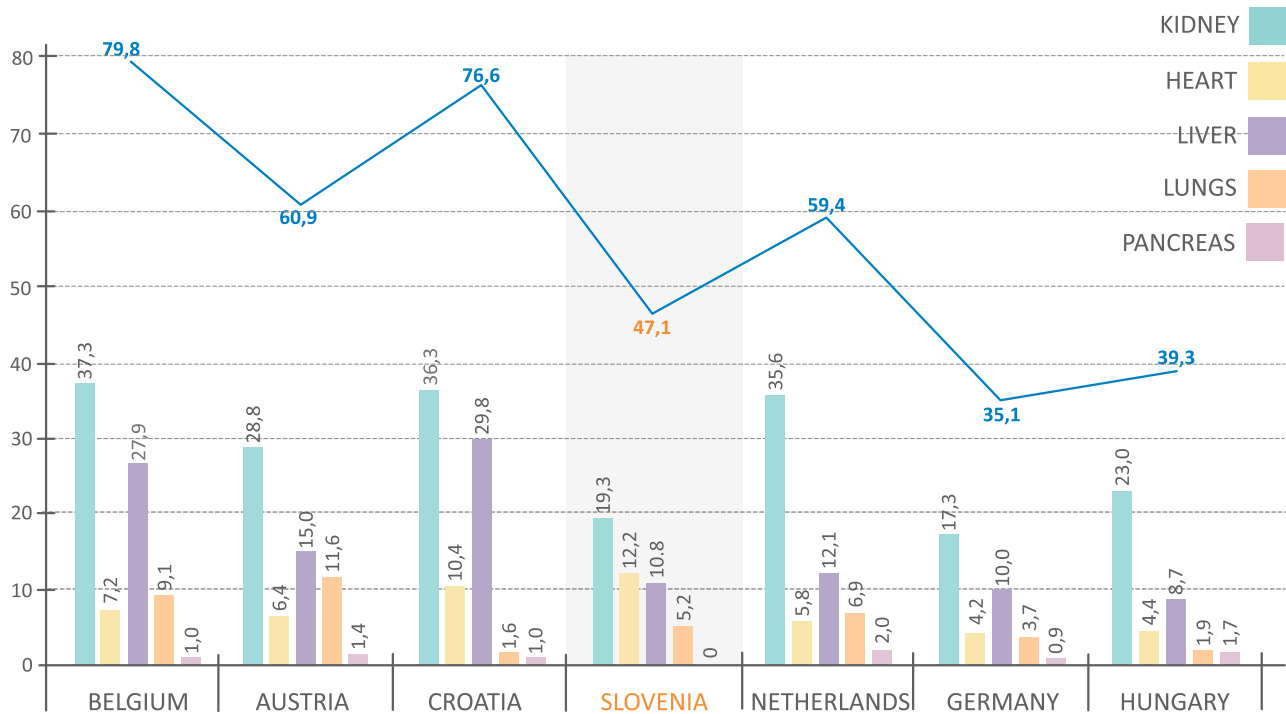


Sources: Archive of Slovenija-transplant and <http://statistics.eurotransplant.org/>

Number of transplanted solid organs from deceased donors per million people (PMP) in Slovenia in 2024 and a comparison with the Eurotransplant countries

ET Country	Kidney	Heart	Liver	Lungs	Pancreas	Nr. of trans-plantations/PMP in 2024
Belgium	37,3	7,2	27,9	9,1	1,0	79,8
Austria	28,8	6,4	15,0	11,6	1,4	60,9
Croatia	36,3	10,4	29,8	1,6	1,0	76,6
Slovenia	19,3	12,2	10,8	5,2	0	47,1
Netherlands	35,6	5,8	12,1	6,9	2,0	59,4
Germany	17,3	4,2	10,0	3,7	0,9	35,1
Hungary	23,0	4,4	8,7	1,9	1,7	39,3

Number of transplanted solid organs from deceased donors per million people (PMP) in Slovenia in 2024 and a comparison with the Eurotransplant countries



Sources: Archive of Slovenija-transplant and <http://statistics.eurotransplant.org/>

Number of transplanted solid organs from deceased donors in Slovenia or to Slovenian patients (abroad) in the 1970–2024 period

Year	Kidney	Heart	Liver	Lungs	Pancreas	Total
1970–1985	1					1
1986	7					7
1987	18					18
1988	16					16
1989	14					14
1990	17	1			1	19
1991	11					11
1992	20					20
1993	4	1				5
1994	14	2				16
1995	10	3	1			14
1996	6	2				8
1997	19	6		1		26
1998	46	4	4			54
1999	37	7	9	3		56
2000	44	7	10	1		62
2001	47	4	9	1		61
2002	55	3	11			69
2003	43	3	9	2		57
2004	55	3	15			73
2005	28	5	13	2		48
2006	48	8**	8	2		66
2007	30	11	10	1		52
2008	52	6	22	4		84
2009	43	18	18	2	2	83
2010	61	19	23	3	1	107
2011	46	14	20	7	1	88
2012	62	29***	27	2		120
2013	60	30	21	8	4	123
2014	55	33	31	3		122
2015	64	24	24	7	5	124
2016	44	31	27	10	5	117
2017	46	24	23	8		101
2018	54	23	27	7	3	114
2019	38	22	24	11	1	96
2020	46	24	25	16	2	113
2021	51	17	21	15		104
2022	51	29	18	10	1	109
2023	53****	21	26****	11	0	111
2024	42*****	26	26*****	11	0	105
Total	1.458	460	502	148	26	2.594

Source: Archive of Slovenija-transplant.

* All lung transplants for Slovenian patients were performed in AKH Vienna with the exception of 2003 (1 transplant performed in Ljubljana UMC) and 2018 (2 transplants performed in Ljubljana UMC). In 2019, 10 transplantations of both lung lobes were performed in the Ljubljana UMC and 1 paediatric lung transplantation in the University Hospital in Vienna (AKH). Since 2020, all lung transplants have been performed in UMC Ljubljana.

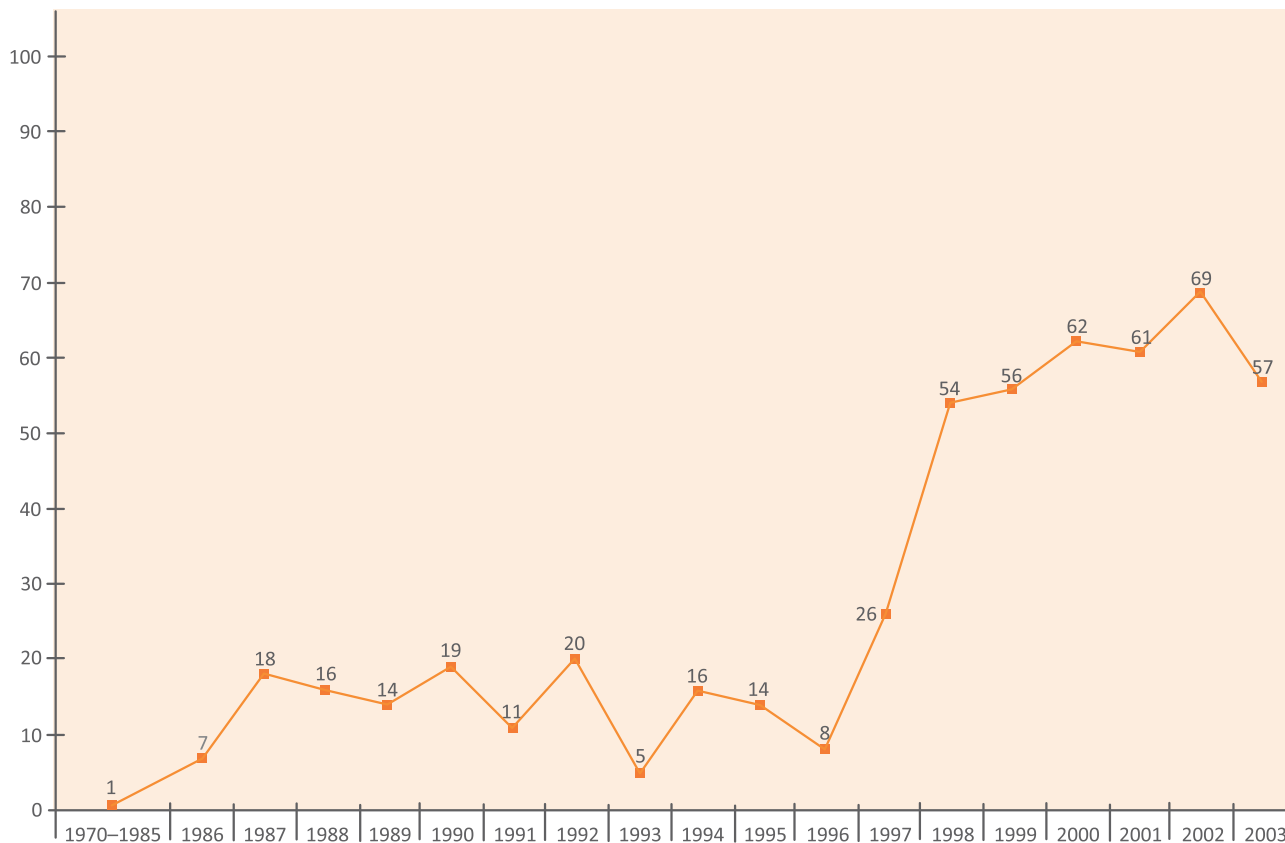
** 1 heart from a Slovenian donor was transplanted to a Slovenian patient in Graz

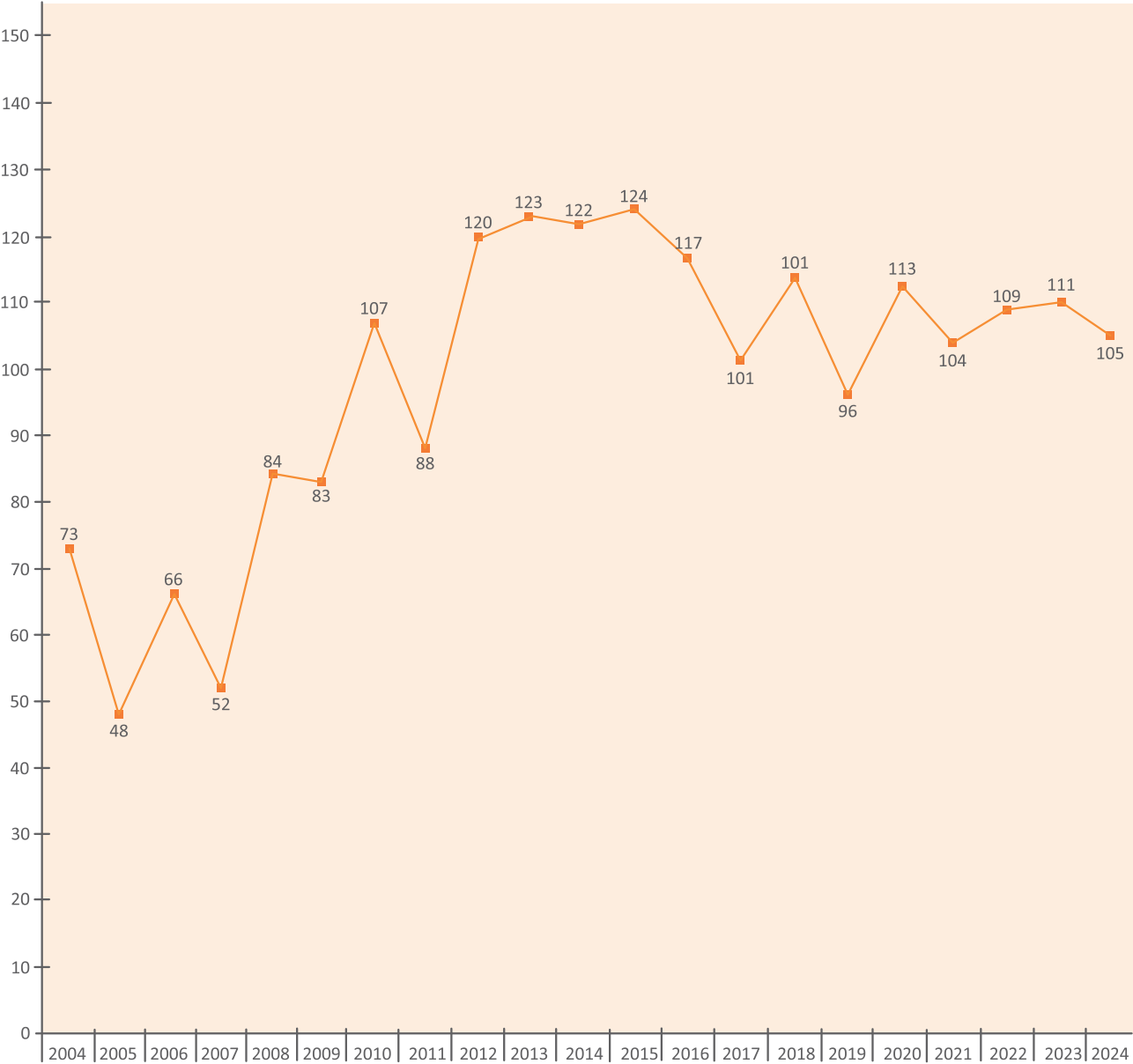
*** 1 heart was transplanted, together with lungs, to a Slovenian patient in Vienna

**** In 2023, two kidneys were transplanted to Slovenian children in Graz and three livers in Bergamo, Italy

***** 3 liver transplantations were performed in Italy and Germany, and 1 kidney was transplanted to Slovenian child in Graz

Number of transplanted solid organs from deceased donors in Slovenia or to Slovenian patients in the 1970–2024 period





Living kidneys transplantations

A living kidney donation in Slovenia is only possible for genetically or emotionally related recipients. Each case of living donation is always reviewed and approved by the Transplant Ethics Committee. The risk to the donor's health must not be disproportionate to the expected benefit to the recipient. At the start of the transplantation programme in Slovenia in 1970, living kidney donation was predominant. From 1986 on, with the establishment of the national donor programme, most organs were retrieved from deceased donors. After a few years break, the living kidney donation programme was revived in 2016 with 1–2 living kidney transplants performed yearly in UMC Ljubljana. Only two such transplantations were performed in 2024.

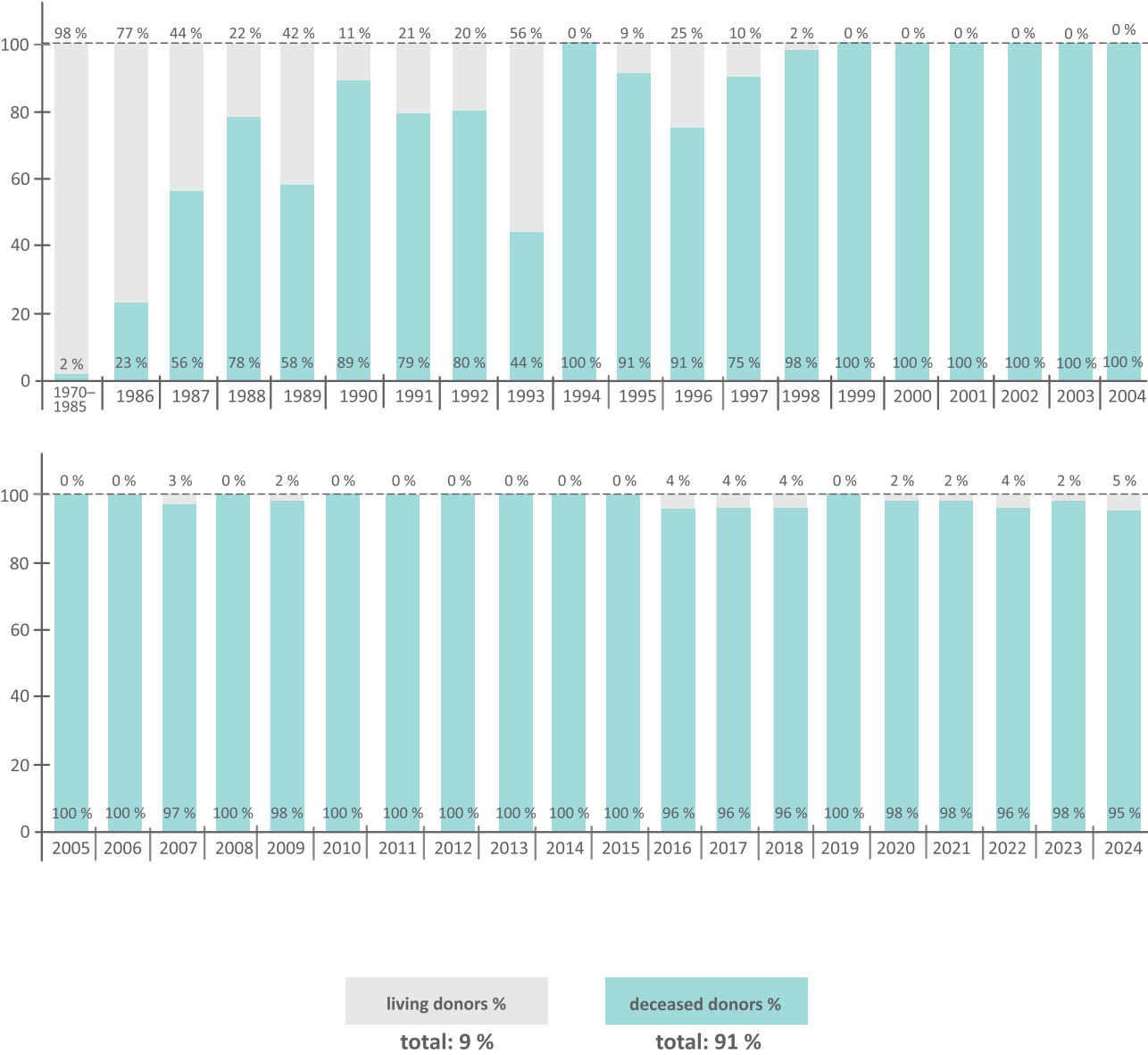
Number of kidneys transplanted from living donors (LD) in Slovenija in the 1970–2024 period

Year	Kidney
1970–1985	43
1986	23
1987	14
1988	13
1989	10
1990	2
1991	3
1992	5
1993	5
1994	0
1995	1
1996	2
1997	2
1998	1
1999	0
2000	0
2001	0
2002	0
2003	0
2004	0
2005	0
2006	0
2007	1
2008	0
2009	1

Year	Kidney
2010	0
2011	0
2012	0
2013	0
2014	0
2015	0
2016	2
2017	2
2018	2
2019	0
2020	1
2021	1
2022	2
2023	1
2024	2
Total	139

Sources: Archive of Slovenija-transplant and Kandus, A, Bren, F. B. (2016). Kidney transplantation in Slovenia/Transplantacija ledvic v Sloveniji od 1970 do 2013. V Avsec, D. in Zupanič Slavec, Z. (ur.), Razvoj transplantacijske medicine v Sloveniji: programi, smernice in perspektive (str. 138). Ljubljana: Zavod RS za presaditve organov in tkiv Slovenija-transplant; Celje: Celjska Mohorjeva družba: Društvo Mohorjeva družba.

Shares of transplanted kidneys from living and deceased donors in the 1970–2024 period



FOLLOW UP RESULTS

Heart transplant programme

From 1990 to the end of 2024, the Ljubljana UMC performed 470 heart transplants, with 26 of those occurring in 2023. In 2024, 21 (81%) patients had an urgent and 5 (19%) an elective heart transplantation. The Ljubljana UMC is ranked among 10 largest heart transplant centres out of 42 in the Eurotransplant area and may be compared by number of transplants with the biggest centres in Germany, Belgium, Hungary and Austria.

The multi-year average (2009–2024) waiting period for an elective heart transplant was approximately 244 days and for an urgent heart transplant about 52 days.

Of all patients with a heart transplant in 2024, 58% needed the procedure due to dilated cardiomyopathy. Other reasons for the transplantation included ischemic heart disease (31%), non-compaction cardiomyopathy (LVNC, 9%) and congenital heart defects (GUCH, 2%).

The patient survival rates are comparable with those from the international reference register kept by the International Society for Heart and Lung Transplantation (ISHLT).

Survival of adult heart transplant recipients in % (1990–2023, n = 384)

30-day survival	1-year survival	5-year survival
93 %	89 %	78 %

Source: Report on implementation of the programme for advanced heart failure and heart transplantation for 2024 (dr. Gregor Poglajen, MD, Cardiology Department, Ljubljana University Medical Centre).

Kidney transplant programme

In the period in which Slovenija-transplant has been a member of Eurotransplant (1 January 2000–31 December 2024), 1,229 kidneys transplantations have been performed, out of which 1,177 from deceased donors and 15 from living donors. Some recipients had a kidney transplanted in combination with other organs, including 25 with pancreas, 6 with heart and 6 in combination with liver.

In 2024, 43 kidneys were transplanted, 41 of deceased donors and 2 of the living donors. In the first post-transplantation year, the clinical, biopsy-proven acute rejection of the transplanted kidney was reported in 12% of all patients (1 January 2000–31 December 2024), and. In 2024, 4,7% of patients had acute rejection (2023: 5,9%).

In the 2020–2024 period, the median waiting time until transplantation was 240 days. In 2024, the median waiting time until transplantation was 86 days (2022: 214 days, 2023: 99 days).

Survival of kidney transplant recipients and transplanted organs in % (2000–2024, n = 1229)

1-year survival	5-year survival
Patients	
98,3 %	93,8 %
Transplanted organs	
94,5 % 95,3 %*	87,4 % 90,9 %*

*Censored for patient death with a functioning kidney graft.

Source: Report on implementation of the Kidney transplantation programme for 2024 (Dr. Miha Arnol, MD, Department of Nephrology, Ljubljana University Medical Centre).

Lung transplant programme

In the period from 1997 to 2024, 149 lung transplants were performed in Slovenian patients: 72 transplants were performed at AKH Vienna (until 2019), including 1 re-transplantation and 1 combined lung-heart transplantation. In 2024, 11 lung transplants were performed at UMC Ljubljana, all of them were of both lung lobes.

The most common indications for lung transplantation at the UMC Ljubljana in 2024 were pulmonary fibrosis (4), chronic obstructive pulmonary disease (3) and pulmonary arterial hypertension (2). Two transplantations were performed due to the first graft failure.

The median waiting time for elective lung transplantation in the period 2018–2024 was 92 days, for urgent transplantations 11 days.

Survival of lung transplant recipients in UMC Ljubljana in % (2018–2024)

1-year survival	3-year survival
84,7 %	79,5 %

Survival of lung transplant recipients in % (1997–2023)*

1-year survival	3-year survival	5-year survival
84 %	79,4 %	71,7 %

Source: Report on implementation of the programme for lung transplantation for 2024 (Dr. Matevž Harlander, Department of Pulmonology and Allergology, University Medical Centre Ljubljana)

Liver transplant programme

Between 1995 and 31 December 2024, the University Medical Centre Ljubljana performed 496 liver transplants in 448 patients: 411 (92%) patients had elective liver transplantation due to complications with chronic liver diseases and liver tumours; 37 (8%) needed an urgent liver transplantation due to acute liver failure. 45 patients (10%) required re-transplantation of the liver.

In 2024, 23 liver transplants were performed in 22 patients (14 men and 8 women) at the UMC Ljubljana. One patient required a re-transplantation due to biliary complications. 20 patients had elective liver transplantation and 2 had urgent liver transplantation. A combined liver and kidney transplant was performed in one patient.

7 patients (32%, 4 men and 3 women) needed the procedure due to hepatocellular carcinoma, 4 (18%) man due to etilic cirrhosis of the liver, 2 (19%) man due to primary sclerosing cholangitis, 1 (4,5%) man due to secondary biliary cirrhosis, 1 (4,5%) man had two transplantations due to the Alpha-1 antitrypsin deficiency and 1 (4,5%) man underwent simultaneous liver and kidney transplantation due to autosomal dominant polycystic liver and kidney disease. 2 (9%) woman had a transplantation due to primary biliary cholangitis (PBC), 1 (4,5%) woman due to Caroli liver disease, and 1 (4,5%) woman due to graft failure after hepatic arterial thrombosis. 2 patients needed an urgent liver transplantation: 1 man due to acuter dietary supplements-induced liver failure and 1 woman due to Wilson's disease.

The average waiting time for a liver transplantation in 2024 was 91 days, with a median of 58 days. In cases of high urgency, a suitable organ was usually available within a few days.

Survival of liver transplant recipients and transplanted organs in % (1995–2023)

1-year survival	3-year survival	5-year survival	
85 %	81 %	77 %	After transplantation
68 %	68 %	65 %	After transplantation due to acute liver failure

Source: Report on implementation of the programme for liver transplantation for 2024 (Mojca Ribnikar, MD, Clinical Department of Gastroenterology, University Medical Centre Ljubljana)

Pancreas transplant programme (in combination with kidney)

In the period from 20 February 2009 to 31 December 2024, 25 pancreas transplants were performed, all concurrently with a kidney in 24 patients with type I diabetes and 1 patient with type II diabetes. No combined pancreas and kidney transplants were performed in 2024.

At the end of 2024, there were 16 patients in Slovenia with a functioning pancreas and kidney.

Survival of combined pancreas-kidney transplant recipients and transplanted organs in % (2009–2023, n = 25 (patients) and n = 20 (transplanted organs))

1-year survival		3-year survival		5-year survival	
Patients					
96 %		96 %		96 %	
Transplanted organs					
Pancreas	Kidney	Pancreas	Kidney	Pancreas	Kidney
76 %	92 %	76 %	92 %	76 %	92 %

Source: Report on implementation of the programme for pancreas transplantation for 2023 (Department of Nephrology, Ljubljana University Medical Centre)

PAEDIATRIC SOLID ORGANS TRANSPLANTATION

Paediatric transplantation is a distinctly multidisciplinary activity. The treatment of children is conducted in close cooperation between numerous clinics, often in collaboration with experienced and specialised centres abroad. Some transplants in children are performed at the University Hospital Ljubljana, while for the youngest children (under 30 kg), depending on the council's assessment, procedures are carried out in nearby European transplant centres (kidneys in Graz, livers in Bergamo, Hamburg, and elsewhere). Preparation and treatment before transplantation, as well as post-transplant care and monitoring, are provided by the relevant departments at the University Hospital Ljubljana, both at the Paediatric Clinic and other appropriate clinics and departments within the UMC Ljubljana hospital.

Heart transplantations

In 2024, experienced specialists at UMC Ljubljana achieved an important professional milestone by successfully performing a heart transplant on a 6-month-old baby. The transplant was necessary due to terminal heart failure caused by a genetic heart muscle disease. This is an extremely demanding and complex procedure that is rarely performed abroad. In Europe, up to five such procedures are carried out annually on children under one year of age. Before this operation, the youngest child to receive a heart transplant at UMC Ljubljana was an 11-month-old baby, with the transplant successfully performed in 2013.

By 2024, nine heart transplants had been performed in children under 16 years of age in Slovenia. The treatment of children before and after the procedure requires a multidisciplinary team and daily cooperation across many disciplines.

Source: www.kclj.si

Liver transplantations

The first liver transplant in a child in Slovenia was successfully performed by the team at University Hospital Ljubljana in 1999. Since then, the team has regularly performed transplants in children weighing more than 30 kg, who can receive a whole liver rather than just parts of the liver, as is the case with infants and toddlers. Children weighing less than 30 kg who need a liver transplant are sent abroad, most often to Bergamo in Italy, and some to Hamburg in Germany. In 2024, three children had a liver transplant: one in Bergamo and two in Hamburg.

Since 1975, a total of 58 liver transplants have been performed on 57 children from Slovenia. One of these was a re-transplant. The transplants were performed in various European centres, namely:

- Ljubljana, Slovenia: 5 transplants (including 1 re-transplantation),
- Milan, Italy: 4 transplants,
- Bergamo, Italy: 36 transplants,
- Vienna, Austria: 1 transplant,
- Hanover, Germany: 3 transplants,
- Hamburg, Germany: 8 transplants,
- Zagreb, Croatia: 1 transplant.

Of all the children who had a liver transplant, eight died. As of June 2025, 32 children are under regular treatment at the Paediatric Clinic, while 18 children are managed at the Gastroenterology Internal Clinic at UMC Ljubljana.

Until 2022, Italy, which is not a member of Eurotransplant, provided livers to children from Slovenia from its transplantation programme without requesting the return of organs. Later, this was no longer possible. After numerous discussions, in 2023 a tripartite agreement was concluded between Eurotransplant, Slovenia-transplant and the Italian transplantation organisation (Centro Nazionale Trapianti). It was agreed that for every liver transplanted to a child from Slovenia, Italy will receive a liver from Eurotransplant via the international organ exchange portal called FOEDUS.

Source: Data provided by Assoc. Prof. Dr. Jernej Breclj, MD, Clinical Department of Gastroenterology, Hepatology and Nutrition, Paediatric Clinic, UMC Ljubljana.

Kidney transplantation

In 2024, one kidney transplant was performed in a child, at LKH Graz. To date, 65 Slovenian children have received kidney transplants, with 33 since 2007. The youngest recipient was 23 months old.

The necessary examinations and placement on the waiting list are carried out at the Paediatric Clinic in Ljubljana. Children are placed on the Slovenian waiting list, even if the procedure is scheduled at LKH Graz. For this purpose, appropriate clinical pathways and algorithms have been prepared with all participants. When transplantation is performed at UMC Ljubljana, direct preparation for the operation is also carried out in collaboration with an adult nephrologist, and after the procedure, the

child is transferred to the intensive care unit at Paediatric Clinic in Ljubljana. If the transplant is at LKH Graz, Slovenija-transplant arranges the redirection of the graft, and coordination of the child's transport and communication with the nephrologist in Graz is managed. After the transplant, children return to the Paediatric Clinic after approximately 10 days, when urological treatment is completed. In cooperation with other centres, individual measures are taken. Further monitoring of all children with a transplanted kidney takes place at the Paediatric Clinic in Ljubljana.

Source: Data provided by prof. Gregor Novljan, MD, Clinical Department of Nephrology, Internal Medicine Clinic, UMC Ljubljana.



In October 2024, the traveling photo exhibition My scar, my life was exhibited in Magistrat Galery, Ptuj. The opening was accompanied by cultural programme and solemn speeches. Photo: Archive of Slovenija-transplant.

TISSUES AND CELLS

TRANSPLANTATION OF HAEMATPOIETIC STEM CELLS

Haematopoietic stem cell (HSC) transplantation is a possible treatment method for more than 70 malignant and non-malignant diseases, and in certain haematological diseases transplantation is the most important therapeutic and also the only option for cure. The modern method of treatment with KMC achieves a success rate of more than 90% under optimal conditions (<http://www.ztm.si>). For such success, sufficient antigenic (HLA) compatibility between donor and recipient must be ensured. For this reason, Slovenia has been included in the global register of the World Marrow Donor Association (WMDA), in which voluntary donors who are HLA typed are registered. In the event of a match, procedures for collection and transplantation are carried out.

In some cases it is possible to use the patient's own stem cells for treatment, which is known as autologous donation. More often it is a donation based on sufficient tissue compatibility between relatives. Under Slovenian legislation, collection and transplantation can also take place between unrelated persons, whereby the principle of anonymity must be observed. Donation from another donor is an allogeneic donation, where we first search for a donor in Slovenia and after abroad.

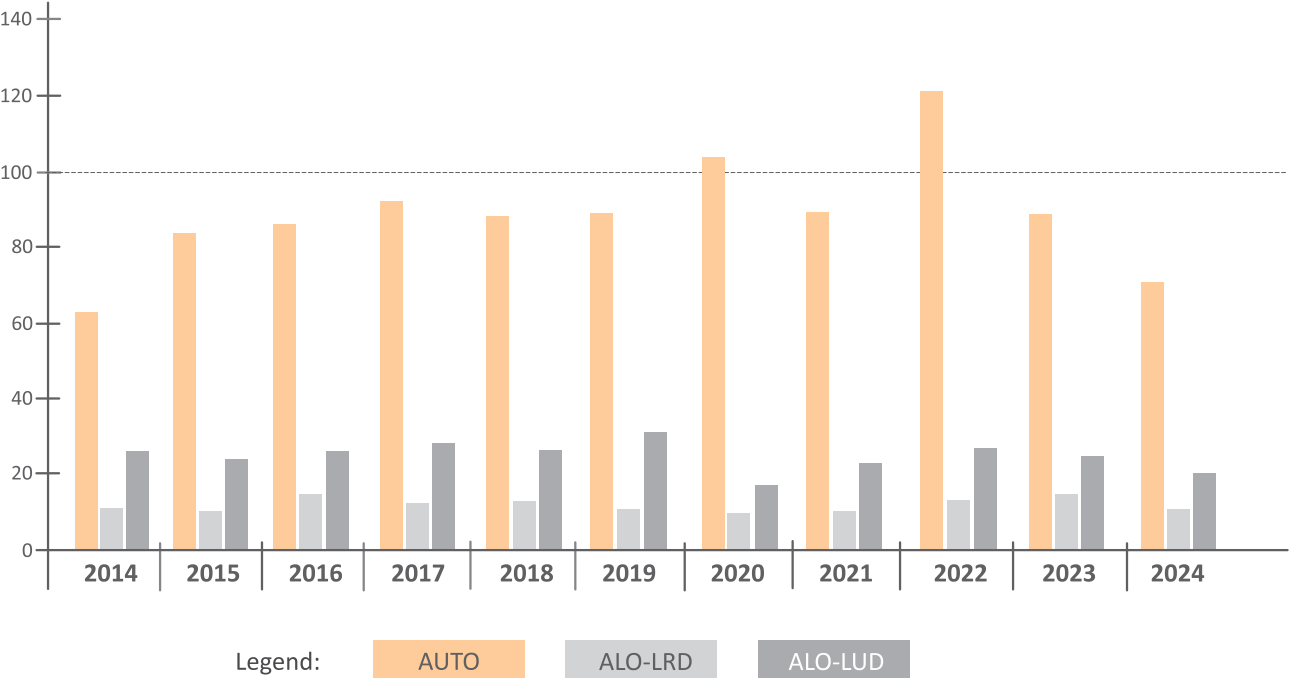
HSC transplantations in Slovenia in the 2000–2024 period

Transplantation type	2000–2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
AUTO	774	63	84	86	92	88	89	104	89	121	89	71
ALO-LRD	126	11	10	15	12	13	11	10	10	13	15	9
ALO-LUD	155	26	24	26	28	26	31	17	23	27	25	20
AUTO and ALO-LRD	21											
Total	1.076	100	118	127	132	127	131	131	122	161	129	100

Source: Yearly report of ZTM – Slovenija donor, data collected monthly for Slovenija-transplant archives

Legend:
AUTO – autologous transplantations,
ALO – allogeneic transplantations,
LRD – living related donor,
LUD – living unrelated donor

HSC transplantations in Slovenia in the 2014–2024 period



The Slovenija Donor register

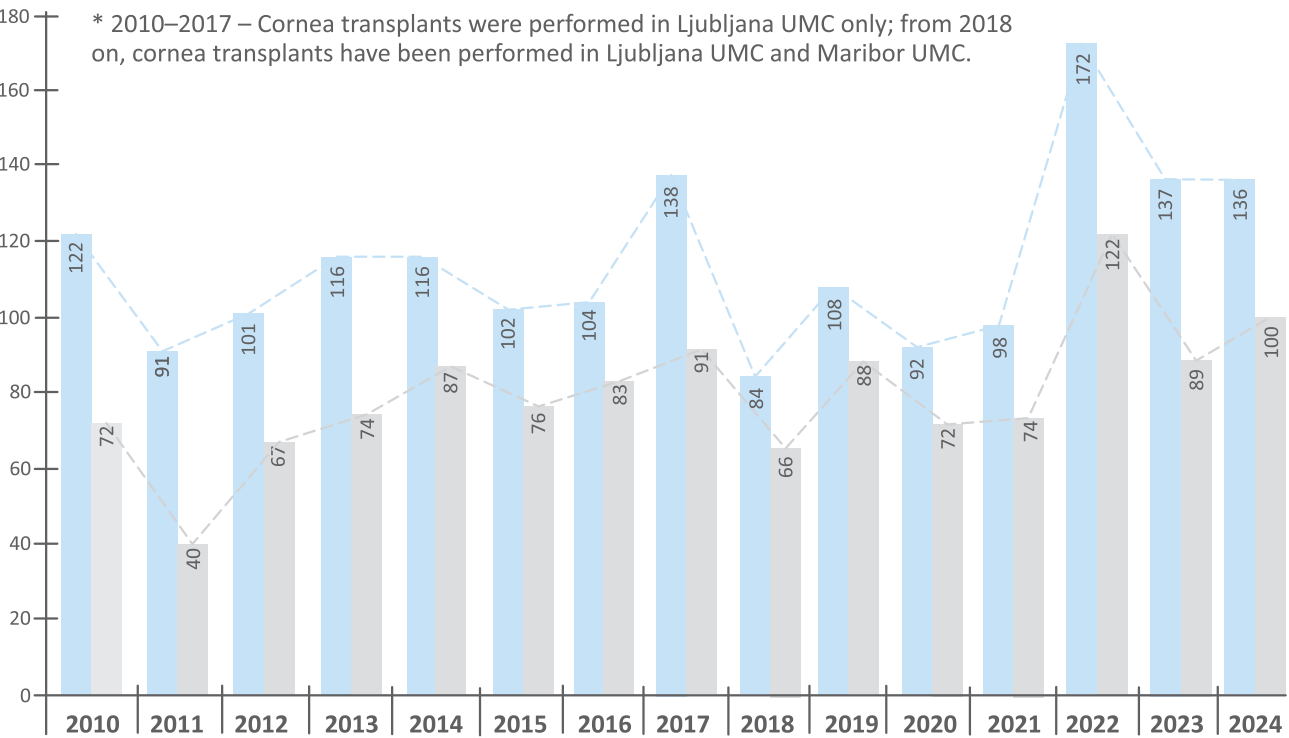
In Slovenia a register of non-related donors called Slovenia Donor, was established in 1991. In the following year it became a full member of the world register World Marrow Donor Association (WMDA).

On 31 December 2024, the Slovenia Donor register included 28,890 people, of whom 24,653 were entered on the BMDW register. In the national register 247 new enrolment were registered in the year 2024. In addition, 537 units of umbilical cord blood are registered in the Slovenia Donor register, 341 of them in the WMDA.

CORNEA PROCUREMENT AND TRANSPLANTATION PROGRAMME

Cornea transplantation is one of the most frequent and most successful tissue transplantations in Slovenia and in the world. This medical treatment is often the only method that can improve sight after a disease or injury. The removal of corneas is possible following consent given by the deceased person during lifetime or if their close relatives do not object. In addition to the consent obtained, a detailed assessment of the suitability of the cornea for transplantation by the physician responsible for the recipient is required. Corneas are transplanted in two transplantation centres: the Department of Ophthalmology in the Ljubljana UMC and the Department of Ophthalmology in the Maribor UMC.

Procured and transplanted corneas in the 2010–2024 period



Source: Archive of Slovenija-transplant

Legend:

procured corneas

transplanted corneas

Deceased cornea donors

In Slovenia, corneas are procured from deceased donors after a cardiovascular death or a brain death. Donors after brain death are in most cases donors who donate both organs and tissues. In the case of deceased donors after cardiovascular death, only tissues, in most cases corneas, are procured.

Number and proportion of deceased donors (DD) by diagnosis of death in 2024

DD after brain death		DD after cardiovascular death	
No.	%	No.	%
43	63 %	25	37 %

Source: Archive of Slovenija-transplant

Number of patients on the waiting list for corneal transplantation in 2023

Ljubljana UMC	Maribor UMC	Total
307	11	318

Source: the Department of Ophthalmology in the Ljubljana UMC and Maribor UMC

Patients on the waiting list for corneal transplantation with a diagnosis of keratoconus

The diagnosis of keratoconus is one of the most common urgent indications for corneal transplantation. The data above on the number of corneas procured and the data below on the number and proportion of patients on the waiting list with this diagnosis show that the Slovenian cornea procurement programme meets the treatment needs of these patients every year.

Year	Diagnosis of keratoconus		Other diagnoses*	
	No. of patients	Proportion in %	No. of patients	Proportion in %
2014	35	39 %	55	61 %
2015	21	19 %	89	81 %
2016	33	22 %	120	78 %
2017	49	25 %	145	75 %
2018	46	18 %	210	82 %
2019	56	21 %	212	79 %
2020	40	17 %	199	83 %
2021	41	15 %	239	85 %
2022	41	15 %	240	85 %
2023	51	17 %	265	83 %
2024	46	14 %	286	86 %

Source: Archive of Slovenija-transplant and the Department of Ophthalmology in the Ljubljana UMC and Maribor UMC

* Other diagnoses: injuries, degeneration, re-transplantation, corneal macula, Fuchs dystrophy, endothelial dystrophy, cornea guttata, aphakia and pseudophakia, bullous keratopathy, infections, and others.

OTHER TISSUES AND CELLS

Traceability and transparency in transplant programmes or tissue and cell use programmes for treatment purposes

Tissue and cell institutions must hold a valid permit issued by the Agency for Medicinal Products and Medical Devices of the Republic of Slovenia (hereinafter: JAZMP). Slovenija-transplant ensures traceability and transparency by promptly collecting and reviewing reports written by the institutions for tissues and cells which present the donation, procurement, processing, storing, allocation, use and disposal of tissues and cells.

At the end of the year, Slovenija-transplant compiles an aggregate annual report based on annual reports issued by individual tissue and cell institutions. Slovenija-transplant is authorised to compile an annual final report on serious adverse events and reactions and submit it to the JAZMP, which then reports about this to the European Commission.

Number of tissues and cells procured in the 2014–2024 period

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
SKIN*	89	52	57	32	22	24	10	46	63	112	40
BONES*	82	147	74	80	78	71	59	256	87	89	60
SOFT BONE GRAFTS*	3	9	0	12	0	0	0	0	0	0	0
CARTILAGE*	11	12	0	0	0	0	0	0	0	0	0
REPRODUCTIVE CELLS (No. of cells)	37.542	39.769	26.191	36.338	13.778	26.813	28.209	24.736	25.721	33.635	34.530

Source: Archive of Slovenija-transplant

* Unit: number of samples taken

Number of tissues and cells used in the 2014–2024 period

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
SKIN*	23	31	28	0	20	3	0	47	43	12	59
BONES*	62	92	82	72	71	81	101	123	90	128	99
SOFT BONE GRAFTS*	4	3	5	2	3	5	4	2	6	12	3
CARTILAGE*	9	5	1	0	0	1	0	3	0	0	0
REPRODUCTIVE CELLS (No. of cells)	27.271	31.127	26.620	31.817	12.110	5.109	14.255	27.547	28.194	28.716	28.249

Source: Archive of Slovenija-transplant

* Unit: number of samples used

Tissue and cell institutions along with quality and safety assurance

In Slovenia, 32 institutions are involved in the activity of procuring and using tissues and cells on the national level. Fifteen hospitals are included in the programme and, within these, 40 clinical departments. In terms of their status, 18 tissue and cell institutions are public and 14 privately-owned. Private institutions hold a permit exclusively for the autologous procurement of tissues and cells.

Slovenija-transplant and the JAZMP ensure that the system functions transparently and promptly identify and discuss any deviations that could affect the quality and safety of the tissues and cells of donors, recipients as well as the staff involved in the processes.

To obtain a permit, every institution must comply with strict expert and legal terms and provisions. All institutions have set up a quality assurance system where all the procedures for ensuring the conditions for tissue and cell quality and recipient safety are defined. They are regularly supervised by the JAZMP, whereas Slovenija-transplant also performs verification of the data reported.

Artificial insemination with biomedical assistance and reproductive cells

Four centres are registered in Slovenia for the activity of artificial insemination with biomedical assistance for couples; namely, the Ljubljana AIBA Centre, the Maribor AIBA Centre, the Postojna AIBA Centre, and the Dravljje Health Centre. The scope of their activities is evident from the table showing the procured and used tissues and cells. This is the most comprehensive area in terms of the number of procedures conducted.

Procuring and storing umbilical cord blood and the umbilical cord

In Slovenia, haematopoietic stem cells are procured from umbilical cord blood, umbilical cord, and from other tissues (e.g. milk teeth). One public tissue bank, the Blood Transfusion Centre of Slovenia (hereinafter: BTCS), and three privately-owned institutions (Izborna celica, Biobanka and FH-S) have a licence for this activity. In 2024 Biobanka was closed down.

Public banks only permit allogeneic transplants, while private banks permit autologous transplants. The public umbilical cord blood bank within the BTCS stopped accepting umbilical cord blood samples on 1 January 2015 as a sufficient number of samples had been collected and stored to meet Slovenia's needs.

Source: <http://www.ztm.si/register-darovalcev/javna-banka-popkovnicne-krvi/>

Number of procured umbilical cord blood units in the period 2015–2024

Institution	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
STEM CELL	76	144	107	82	81	81	78	73	69	122
BIOBANK	175	178	266	110	224	197	241	170	160	0*
FH-S	8	45	101	169	192	206	245	293	313	317
NEO CELL	238	0*	0*	0*	0*	0*	0*	0*	0*	0*

Source: Archive of Slovenija-transplant

* The institution stopped operating.

Number of procured umbilical cord units in the period 2015–2024

Institution	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
STEM CELL	60	116	96	52	73	75	77	71	66	119
BIOBANK	32	150	222	96	212	184	236	170	164	0*
FH-S	8	42	96	114	196	213	247	301	315	323
NEO CELL	198	0*	0*	0*	0*	0*	0*	0*	0*	0*

Source: Archive of Slovenija-transplant

* The institution stopped operating.



The project of traveling exhibition My scar, my life is successfully running with cooperation of patient organisation Slovenian Transplant Association and the Institute Slovenija-transplant. Photos demonstrate the exhibition in Portorož Auditorium (above) and General Hospital Celje (right).

Photo: Archive of Slovenija-transplant.



ADVERSE EVENTS AND REACTIONS

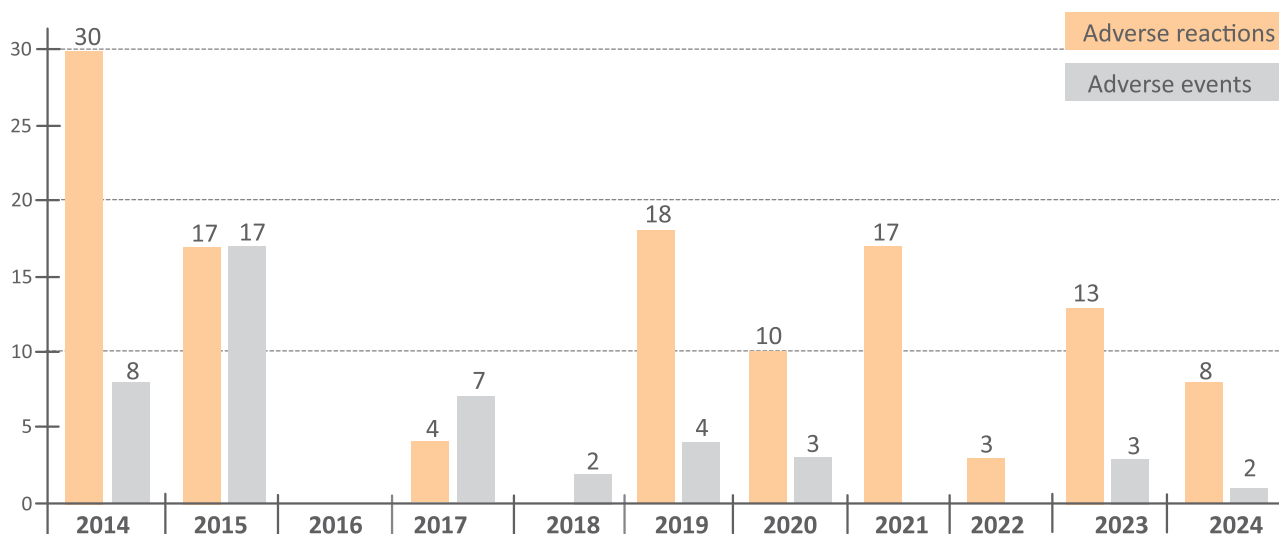
Slovenija-transplant is responsible for monitoring adverse events and reactions as well as deviations in the area of the procurement of tissues and cells for transplantation and/or tissue vigilance. The aim of collecting reports on adverse events and reactions or even raising doubts about them is to assure the quality of procedures and thus prevent the damage or even loss of tissues and cells.

Reporting takes place using prescribed forms, whereby initial and final reports must be submitted for each case. Both forms are attached to the Rules on Tissue Vigilance. Reporting entails several phases: identification of deviation, detailed assessment and description of the case, adoption of appropriate measures for preventing damage to tissues and cells as well as people, reporting the case to relevant institutions, and notification of all tissue and cell institutions which were provided with tissues and cells in which deviations were identified.

All data collected in the tissue vigilance system are anonymised so as to ensure privacy and, on the other hand, comply with the so-called culture of non-judgement, which means encouraging reporting along with searching for solutions and improvements, while not judging implementers on a personal level.

Number of adverse events and reactions in the 2014–2024 period

Legend:



Source: Archive of Slovenija-transplant

EDUCATING AND INFORMING THE PROFESSIONAL PUBLIC

The training and informing of healthcare professionals is crucial for the successful development and functioning of the donation and transplantation system. In 2024, training programmes were being updated in line with new developments and contemporary professional guidelines. Topics such as donation after circulatory death (DCD), options for the active detection of potential deceased donors, new guidelines for the treatment and care of critically ill patients in intensive care units, options for organ and tissue donation after death (ICOD programme).

In collaboration with medical students and Prof. Matej Strnad from UMC Maribor, we investigated the potential for introducing a donation programme after uncontrolled (sudden) circulatory death following unsuccessful out-of-hospital resuscitation. The results were published in the article: Kulovec D, Petravić L, Miklič R, et al. Uncontrolled Donation Potential After Circulatory Death in Slovenia Could Lead to More Organ Donations: Extrapolation of SiOHCA Study Data. INQUIRY: The Journal of Health Care Organization, Provision, and Financing. 2024;61.

“Basics of the Donor Programme” training (ETPOD)

Elementary level of training is provided in all hospitals involved in donor activities. Participants are given an overview of the national donor programme, professional protocols, activities and results. In 2024, we delivered the training in the donor hospital Izola. A total of 21 participants, doctors and nurses, attended the training sessions.

During the year, we adapted the educational activities to the unfavourable conditions in healthcare (medical strike, political reforms, organisational and human resources problems). Instead of basic education on the donor programme, we delivered lectures at morning reports in four donor hospitals: General Hospital Izola, General Hospital Nova Gorica, General Hospital Novo mesto, and UMC Maribor. Nearly 100 doctors received up-to-date information and detailed instructions about the national donor programme.

Advanced education and training for health professionals

The Intermediate Training Course in Transplant Coordination according to the TPM programme is delivered in collaboration with the Spanish organisation DTI. The aim of the course is to develop the

professional standards in the national donor programme and provide in-depth training for doctors and other staff in intensive care units and emergency units from all donor hospitals. In April 2024, we held the 11th successful edition of the training course, at the traditional location in the Logarska Valley. It was attended by 35 participants from all Slovenian donor hospitals and young transplant coordinators from Slovenia-transplant. Lectures and workshops were given by lecturers from Slovenija-transplant and UMC Ljubljana, while Spanish experts presented global trends and innovations, with a focus on donation after circulatory death (DCD), new guidelines in the treatment and care of critically ill patients in intensive care units, and options for organ and tissue donation after death (ICOD programme).

Slovenija-transplant e-newsletter

Since 2022, four or five e-newsletters are disseminated to professional public by Slovenija-transplant. The professional news from Slovenija-transplant is targeted at the professional public, informing them about novelties, activities of the institute, media publications, statistics and training options. The aim of this communication tool is to reach a well-informed, connected and development-oriented professional public. In 2024, we published four issues of the newsletter and sent it to more than 560 email addresses. The opening rate was over 50%.

Lectures at faculties, professional associations, and societies

At Slovenia-transplant, we have shared knowledge about donor and transplantation activities as part of regular and part-time medical and health higher education and university programmes. In 2024, chief physician Danica Avsec delivered a lecture on ethics in transplantation medicine at the Faculty of Medicine, University of Maribor.

Through mentoring or co-mentoring at Slovenia-transplant, we have, according to expressed needs and by agreement, collaborated on diploma theses and other student projects on the topic of donation and acquisition of human body parts for treatment purposes.

Slovenia-transplant employees have shared knowledge about donor activities in various health institutions, at professional symposiums, and at other public events as invited lecturers.

INTERNATIONAL PROJECTS

BRAVEST – Building Resilience Against crisis: a systematic and global approach to adVance organ Safety and supply in Transplantation

Duration: 1 September 2022 – 28 February 2025

Co-financing: EU4HEALTH Programme

Slovenija-transplant is an important partner in an EU project led by the European Society for Organ Transplantation (ESOT). Members of a top international interdisciplinary team are analysing the factors that influenced the success of donation and transplantation activities before, during and after the SARS-CoV-2 outbreak. The ultimate goal of the project is to improve the resilience of donation and transplantation systems in times of crisis (e.g. epidemics, environmental disasters, earthquakes, war...).

The members of the consortium meet regularly for monthly (online) meetings. In 2024, Slovenija-transplant was hosting yearly project review meeting. The consortium members met on a two-day meeting in person in March at the Brdo. The meeting was successful and important progress in the international exchange of the donor and recipient data were made.

In 2024, most activities were related to solving complex problem of international exchange and comparability of data on organ donors and recipients, which must be in line with the national requirements of the General Data Protection Regulation and the common research objectives. Documents DPIA and DSA were developed.

Slovenija-transplant leads the Work Stream 5 (Sustainability of results) and is involved in all work streams and activities of the project as the national competent authority. The leader of the project at national level is Chief Phys. Danica Avsec.

More information about the project can be found on the project website:
<https://bravest-project.eu/>.

INTERNATIONAL PROFESSIONAL BOARDS

Slovenia-transplant is the national competent authority for organ and tissue donation (NCA). It participates in developing key professional recommendations and documents at the European level and appoints delegates to professional international committees. The most important committee work in 2024 is stated below.

- The European Committee on Organ Transplantation at the Council of Europe (European Committee on Organ Transplantation CD-P-TO) develops and adopts essential professional guidelines in organ and tissue transplantation, including the reference manuals Guide to the Quality and Safety of Organs for Transplantation and Guide to the Quality and Safety of Tissues and Cells for Transplantation. Andrej Gadžijev and Danica Avsec were involved in preparing guidelines.
- In the Expert Group on Supervision and Vigilance in the Use of Human Body Parts for Therapeutic Purposes (CasSOHO), the central topic in 2024 was the new regulation on substances of human origin (SOHO regulation), approved and adopted in June 2024. Subsequent meetings focused on implementation methods and interpretation of specific terms.
- Two plenary meetings of the Expert Committee of the States Parties to the Convention against Trafficking in Organs (THO group under the Council of Europe) were attended by Danica Avsec. The April meeting focused on the results of an extensive questionnaire, providing insight into the activities of countries that are signatories to the Santiago de Compostela convention. The December meeting discussed procedures following the ratification of the convention against trafficking in organs.
- Committee for Transplant Coordinators of the European Association of Medical Specialists (UEMS-BTC): cf. Danica Avsec, as a long-time president and current deputy of the BTC board, was involved in preparing and implementing European accreditations and exams for transplant coordinators. In 2024, prim. Avsec proposed a study in the CD-P-TO Transplantation Committee to determine the method of education and certification of transplant coordinators in Europe, as required by EU Directive 53/2010. The project was accepted by the CD-P-TO committee, and Slovenia was selected as the leader.
- Gorazd Čebulc, nominated for a three-year term and elected vice-president of the committee,

participated in the ECDC SoHONet Coordination committee on behalf of the national institution. In 2024, three meetings and one training session on the use of the EpuPulse platform were organised for the professional exchange of data on infectious diseases between EU/EEA member states.

- **EDQM - European Directorate for the Quality of Medicines and Health Care**
Several expert groups operate under the auspices of the Council of Europe's EDQM. One of the important expert group is on donation after circulatory death, where the Slovenian delegate is Andrej Gadžijev. In 2024, the working group continued its activities to develop new guidelines to assist the responsible institutions of the member states and healthcare professionals in establishing new DCD programmes or improving existing ones.
- **Eurotransplant: Slovenia-transplant** has had an agreement on cooperation and exchange of organs with the International Foundation Eurotransplant (ET) since 2002. Cooperation takes place according to clearly defined exchange rules and business criteria through two main committees, the Committee for Medicine and Science and the Committee for Administrative Affairs, as well as through advisory bodies for various areas (Advisory Committee for Registries, Committee for Ethical Issues, Committee on Donation Processes and Procedures). Each committee includes representatives from Slovenia-transplant.

REFERENCES

- Website of the Slovenia-transplant Institute <http://www.slovenija-transplant.si>.
- Website of the Institute for Transfusion Medicine <http://www.ztm.si/register-darovalcev/slovenija-donor>.
- Act Regulating the Obtaining and Transplantation of Human Body Parts for the Purposes of Medical Treatment / Zakon o pridobivanju in presaditvi delov človeškega telesa zaradi zdravljenja (ZPPDČT), Ur. l. RS, 56/2015.
- Council of Europe Convention against Trafficking in Human Organs (CM, 9. 7. 2014).
- Website of Eurotransplant: <https://www.eurotransplant.org/>.
- Website of European Directorate for the Quality of Medicines and Healthcare EDQM: <https://www.edqm.eu/>.
- Guide to the Quality and Safety of Organs for Transplantation. European Committee (Partial Agreement) on Organ Transplantation (CD-P-TO), European Directorate for the Quality of Medicines & Health Care, Strasbourg; 8th ed. 2022.
- Guide to the Quality and Safety of Tissues and Cells for human application. European Committee (Partial Agreement) on Organ Transplantation (CD-P-TO), European Directorate for the Quality of Medicines & Health Care, Strasbourg; 5th ed. 2022.
- The Madrid Resolution on Organ Donation and Transplantation: <https://www.transplant-observatory.org/download/the-madrid-resolution-on-organ-donation-and-transplantation/>
- Development of transplant medicine in Slovenia / Razvoj Transplantacijske medicine v Sloveniji: programi, smernice in perspektive. Editors Danica Avsec, Zvonka Zupanič Slavec; ilustracije Radko Oketič. Ljubljana: Zavod RS za presaditve organov in tkiv Slovenija-transplant; Celje: Celjska Mohorjeva družba: Društvo Mohorjeva družba, 2016.
- Donation programme / Donorski program: Postopki za izvajanje v donorskih bolnišnicah. Authors: Andrej Gadžijev, Danica Avsec. Ljubljana: Zavod RS za presaditve organov in tkiv Slovenija-transplant. Ljubljana, 2018.
- IRODaT (International Registry in Organ Donation and Transplantation)
- Danica Avsec, Jana Simenc. Twenty Years of Deceased Organ Donation in Slovenia: Steps Towards Progress in Quality, Safety, and Effectiveness. American Journal of Health Research. Vol. 9, No. 3, 2021, pp. 82-88. doi: 10.11648/j.ajhr.20210903.13.
- Kulovec D, Petravič L, Miklič R, et al. Uncontrolled Donation Potential After Circulatory Death in Slovenia Could Lead to More Organ Donations: Extrapolation of SiOHCA Study Data. INQUIRY: The Journal of Health Care Organization, Provision, and Financing. 2024;61.

- Newsletter Transplant, International Figures on Donation and Transplantation, vol. 79 (2024), EDQM. <https://freepub.edqm.eu/publications/>.
- End-of-life-care as a prerequisite for DCD implementation. Avsec, Šimenc, Gadžijev, Marić. International DCD congress and consensus, Bucharest, 10-12 October 2024 (Poster presentation).

DATA SOURCES:

Donor programme:

- Archive of Slovenija-transplant
- Eurotransplant Statistics Library: <https://statistics.eurotransplant.org/>.
- Newsletter Transplant, vol 79 (2024).

Recipient programme:

- Reports on implementation of the transplant programme at Ljubljana UMC for 2024
- Reports from Paediatric clinic Ljubljana for 2024
- Reports from UMC Maribor, Department of Ophthalmology
- Report from UMC Ljubljana, Department of Ophthalmology
- Report from Institute for transfusion medicine – programme Slovenia donor

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Slovenija-transplant

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