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Life
a chance

Donorska in transplantacijska
dejavnost v **Sloveniji v letu 2017**

Donor and transplantation
activity in **Slovenia in 2017**

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Daj življenju priložnost - Donorska in transplantacijska dejavnost v Sloveniji v letu 2017

Urednici: Danica Avsec, Barbara Uštar

Avtorji: Barbara Uštar, Jana Šimenc, Gorazd Čebulc, Jože Jakovac

Lektorica: Marta Brečko Vrhovnik

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Give life a chance – Donor and transplantation activity in Slovenia in 2017

Editors: Danica Avsec, Barbara Uštar

Authors: Barbara Uštar, Jana Šimenc, Gorazd Čebulc, Jože Jakovac

Translation: Nives Mahne Čehovin

Language editing and proofreading: Murray James Bales

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Slovarček temeljnih izrazov

BOLNIŠNIČNA KRVNA BANKA: enota, ki v bolnišnici shranjuje in razdeljuje kri ter krvne komponente in opravlja predtransfuzijsko testiranje ter bolnišnične transfuzijske dejavnosti. Za zbiranje krvi torej ni pooblaščen.

BOLNIŠNIČNI TRANSPLANTACIJSKI KOORDINATOR: zakon določa način imenovanja, naloge bolnišničnih koordinatorjev in pravilnik o koordinatorjih. Naloge bolnišničnih transplantacijskih koordinatorjev so: organizacija in koordinacija dela na vseh področjih transplantacijske dejavnosti v bolnišnici, od odkrivanja možnih mrtvih darovalcev (MMD) do organizacije in koordinacije odvzemov v bolnišnici ter pospeševanje programa pridobivanja organov in tkiv za presaditev. Delo opravljajo zdravniki specialisti, ki so pridobili dodatna znanja o vseh področjih transplantacijske dejavnosti v bolnišnici oz. donorskem centru.

CENTRALNI TRANSPLANTACIJSKI KOORDINATOR: zdravnik z dodatnimi znanji, ki organizira in koordinira transplantacijsko dejavnost od zaznave možnega darovalca do odvzema. Centralni transplantacijski koordinatorji so v pripravljenosti 24 ur na dan vse dni na leto.

ČAKALNI SEZNAM (PREJEMNIKOV): zbirka podatkov zaporedno vpisanih pacientov, ki čakajo na presaditev z namenom zdravljenja. Indikacije za presaditev so za vsak organ/tkivo/celico specifične.

DAROVALEC: oseba, ki daruje del telesa za namen zdravljenja, ne glede na to, ali do darovanje pride za časa življenja ali po njeni smrti.

DAROVANJE: darovanje dela telesa, namenjenega za zdravljenje s presaditvijo.

DEJANSKI UMRLI DAROVALEC: aktiven darovalec, od katerega je bil presajen vsaj en organ.

DODELJEVANJE: postopek, po katerem se izbere najustreznejšega prejemnika.

DONORSKA BOLNIŠNICA ALI CENTER: javnozdravstveni zavod ali enota tega zavoda, ki izvaja dejavnost pridobivanja delov telesa za namen zdravljenja s presaditvijo.

HUD NEŽELEN DOGODEK: kateri koli neželen ali nepredviden dogodek v zvezi s katero koli stopnjo postopka darovanja do presaditve, ki lahko povzroči prenos nalezljive bolezni, smrt, ogrozi življenje, povzroči invalidnost ali nezmožnost za delo, katerega posledica je hospitalizacija ali obolevnost, ali ki podaljša hospitalizacijo ali obolevnost.

HUDA NEŽELENA REAKCIJA: nenamerni odziv, vključno s pojavom prenosljive bolezni, pri živem darovalcu ali prejemniku, ki bi lahko bil povezan s katero koli stopnjo postopka od darovanja do presaditve, ki je smrten, smrtno nevaren, ki povzroča invalidnost ali nezmožnost za delo, ali katerega posledica je hospitalizacija ali obolevnost ali ki podaljša hospitalizacijo ali obolevnost.

INTENZIVNO ZDRAVLJENJE/INTENZIVNA NEGA: zdravljenje, ki zahteva hitro odzivno diagnostiko, terapijo, nego in stalni nadzor življenjskih funkcij bolnika ponavadi v enoti za intenzivno zdravljenje.

MOŽEN UMRLI/MRTVI DAROVALEC: oseba, katere klinično stanje kaže na verjetnost, da izpolnjuje merila za možgansko smrt.

NACIONALNA IDENTIFIKACIJSKA ŠTEVILKA DAROVALCA OZIROMA PREJEMNIKA: identifikacijska oznaka, ki jo v skladu z nacionalnim sistemom identifikacije darovalcu ali prejemniku dodeli Slovenija-transplant in služi kot povezovalni znak, prek katerega se sledi darovalcu in prejemniku organa, zlasti pri izmenjavi podatkov med donorskimi centri, transplantacijskimi centri in drugimi državami članicami Evropske unije.

PRIMEREN UMRLI/MRTVI DAROVALEC: medicinsko ustrezna oseba, pri kateri je bila ugotovljena smrt na podlagi nevroloških meril, glede na relevantno zakonodajo.

SLEDLJIVOST: možnost, da se najde in identificira organ v vseh fazah preskrbe z organi ali uničenja, vključno z možnostjo, da se identificirata darovalec in donorski center, poiščejo prejemniki pri transplantacijskem centru ter identificirajo vsi pomembni neosebni podatki v zvezi s proizvodi in materiali v stiku z organom.

STOPNJA ODKLONITVE: odstotek odklonitev svojcev oz. oseb, ki so blizu umrelemu, za darovanje po smrti.

STOPNJA ZAVRNITEV: odstotek zavrnitev presadka pri prejemniku.

TRANSPLANTACIJSKA DEJAVNOST: zdravstvena dejavnost, ki vključuje postopke darovanja, pridobivanja, testiranja in ra-

zdeljevanja organov ter darovanja, pridobivanja, testiranja, predelave, konzerviranja, shranjevanja in razdeljevanja tkiv in celic za potrebe zdravljenja s presaditvijo.

TRANSPLANTACIJSKI CENTER: javnozdravstveni zavod ali enota tega zavoda, ki izvaja dejavnost zdravljenja s presaditvijo organov.

TRANSFUZIJSKI CENTER: organizacijska enota, ki je v bolnišnici odgovorna za zbiranje krvi, testiranje, predelavo zbrane krvi v krvne komponente in njihovo shranjevanje. Izvaja predtransfuzijsko testiranje in bolnišnične transfuzijske dejavnosti ter bolnišnice in druge porabnike oskrbuje s krvjo in krvnimi komponentami.

TRANSFUZIJSKI ZAVOD OZIROMA ZAVOD RS ZA TRANSFUZIJSKO MEDICINO V LJUBLJANI: na državni ravni odgovoren za strokovno raven preskrbe s krvjo in krvnimi pripravki ter povezovanje transfuzijske medicine z bolnišnično dejavnostjo. Zavod usklajuje vse dejavnosti v zvezi z izbiro krvodajalcev, zbiranjem, testiranjem, predelavo, hrambo in razdeljevanjem krvi ter krvnih pripravkov, klinično rabo krvi in nadzorom nad težkimi neželenimi dogodki oziroma reakcijami v zvezi s transfuzijo krvi. Zavod RS za transfuzijsko medicino na državni ravni usklajuje in povezuje mrežo bolnišničnih transfuzijskih oddelkov in bolnišničnih krvnih bank, vodi enoten informacijski sistem, strokovno izobraževanje in razvojno-raziskovalno dejavnost ter sodeluje z mednarodnimi organizacijami, zvezami in sorodnimi zavodi v drugih državah.

Uvodnik

Donorsko in transplantacijsko dejavnost v Sloveniji povezuje, koordinira, pospešuje ter nadzira javni neprofitni Zavod RS za presaditve organov in tkiv Slovenija-transplant, ki deluje pod okriljem Ministrstva RS za zdravje. Zavod se od ustanovitve (leta 2000) naprej nenehno razvija v skladu s priporočenimi mednarodnimi smernicami, stremi k ustvarjanju kohezivne strokovne javnosti ter vztrajno povečuje zaupanje med splošno javnostjo. Preko članstev v mednarodnih odborih ter s sodelovanjem v več konzorcijih evropskih projektov je vpet v mednarodno okolje ter tudi aktivni soustvarjalec strategij in aktivnosti s področja. Pri urejanju in vodenju področja pridobivanja in uporabe delov človeškega telesa za namen zdravljenja Slovenija-transplant sledi načelom:

samozadostnosti | enakosti za bolnike | optimalne učinkovitosti | veljavne zakonodaje | medicinske etike in deontologije | profesionalnosti | nekomercialnosti | transparentnosti | prostovoljnosti.

Slovenija-transplant je prav tako osrednja povezovalna ustanova ter centralna koordinacijska pisarna nacionalne transplantacijske mreže, ki je bila ustanovljena leta 1998. Nacionalno mrežo sestavlja deset donorskih centrov, transplantacijski center v UKC Ljubljana in Center za tipizacijo tkiv, ki deluje v sklopu Zavoda RS za transfuzijsko medicino. Nacionalna mreža omogoča delovanje donorskega in prejemniškega programa ter zagotavlja, da imajo do zdravljenja s presaditvijo pravico in dostop vsi slovenski državljani. Mreža deluje nepretrgoma, zato so ustrezne strokovne ekipe v pripravljenosti 24 ur na dan, vse dni v letu (več glej www.slovenija-transplant.si).

Ker ima Slovenija relativno majhno število prebivalcev, ni mogoče v vseh primerih najti tkivno skladnega ter v vseh ozirih ustreznega darovalca za bolnega oz. tudi obratno, ustreznega prejemnika

za vse pridobljene organe. Zaradi teh razlogov je Slovenija izpolnila številne pogoje in se januarja 2000 priključila mednarodni zvezi Eurotransplant. Eurotransplant je neprofitna organizacija in mednarodna transplantacijska mreža, ki koordinira ter organizira izmenjavo organov med transplantacijskimi centri Belgije, Nizozemske, Luksemburga, Nemčije, Avstrije, Hrvaške, Madžarske in Slovenije. Združuje območje z okoli 135 milijoni prebivalcev. Sedež organizacije je v Leidnu na Nizozemskem. Algoritmi dodeljevanja in izmenjav so natančno določeni. Sodelovanje v mreži ima izjemen pomen in zagotavlja večje možnosti za preživetje pacientov z nenadno (akutno) odpovedjo delovanja jeter ali srca, ko je potrebno urgentno zdravljenje s presaditvijo, ter omogoča zdravljenje pri visoko senzibiliziranih bolnikih (več o organizaciji, glej www.eurotransplant.org).

Publikacija je namenjena vsem zainteresiranim javnostim. V njej so predstavljeni pomembni dogodki in presežki preteklega leta ter pregledno zbrani in predstavljeni izbrani rezultati donorskega programa po potrjeni smrti ter prejemniških programov za leto 2017. Umeščeni so v pomembne mednarodne kontekste ter tudi širši časovni okvir, kar omogoča ustreznejše razumevanje rezultatov in uspehov posameznih let. V publikaciji sicer v ospredje postavljamo kvantificiran vidik naše dejavnosti, a za vse vpletene, tako strokovnjake kot bolne, je za vsako »številko« zelo specifična ter individualizirana zgodba in izkušnja. Za vsako uspešno transplantacijo stoji predan in usklajen multidisciplinarni tim strokovnjakov, prostovoljni darovalec ter sodelujoči bolnik.

Zahvaljujemo se vsem vidnejšim in manj vidnim članom, tako iz vrst strokovnih kot laičnih javnosti, ki so sodelovali in sodelujejo v donorskem in prejemniškem programu ter omogočajo uspešno delovanje transplantacijske medicine v Sloveniji.

Presežki in zaznamki leta 2017

1. Posodobitev zakonodaje:

Na podlagi 7. odstavka 11. člena *Zakona o pridobivanju in presaditvi delov človeškega telesa zaradi zdravljenja* (Uradni list RS, št. 56/15, z dne 29. 7. 2015) je bil pripravljen *Pravilnik o opredelitvi glede darovanja delov človeškega telesa* (Uradni list RS, št. 29/17) in bil sprejet 9. 6. 2017. Pravilnik je nadomestil *Navodilo o postopkih in dejavnostih na področju pridobivanja darovalcev delov človeškega telesa zaradi presaditve* (Uradni list RS, št. 131/03 in 56/15 – ZPPDČT).

Sprejem pravilnika je prinesel sledeče ključne novosti pri postopkih opredelitve glede darovanja organov in tkiv po smrti:

1. Uvedba dodatnega registra oseb za opredelitev PROTI darovanju: Obstoječi register opredeljenih oseb je bil dopolnjen z možnostjo opredelitve PROTI darovanju.
2. Sprememba v obrazcu *Pristopna izjava darovalca*: Novi obrazec za opredelitev glede darovanja organov in tkiv omogoča opredelitev bodisi ZA bodisi PROTI darovanju.
3. Predvidevanje možnosti opredelitve z elektronskim podpisom, ki ustreza lastnoročnemu podpisu, skladno z zakonom, ki ureja elektronski podpis in elektronsko poslovanje: Za vzpostavitev te možnosti smo v letu 2017 s partnerji dorekli tehnično rešitev, realizacijo eOpredelitve predvidevamo v prvi polovici leta 2018.

2. Družbeno odgovorna akcija »Ne čakaj, postani darovalec«:

Slovenija-transplant in agencija AV studio sta združila moči in v januarju 2017 izvedla družbeno odgovorno akcijo »Ne čakaj, postani darovalec« z namenom ozaveščanja javnosti o pomembnosti darovanja organov in tkiv za namen zdravljenja. Odzivi strokovne in splošne javnosti so bili

odlični, kar se je odrazilo tudi na izrazitem porastu števila vpisov v register opredeljenih oseb glede darovanja organov in tkiv (glej poglavje Register opredeljenih darovalcev po smrti). Tudi odstotek odklonitev darovanja pri pogovoru s svojci je bil najnižji v zadnjih šestih letih. Dobro so se odzvali tudi mediji, preko katerih so bile posredovane ključne informacije o darovanju organov in tkiv. Skupna akcija je pokazala, da je s pravim pristopom možno v kratkem času premakniti miselnost in dejanja javnosti na poti do boljše in bolj solidarne družbe.

3. Študijski obisk Moldavske delegacije v Sloveniji:

V maju 2017 smo na Slovenija-transplantu na študijskem obisku gostili tričlansko delegacijo strokovnjakov s področja transplantacijske medicine iz Moldavije. Slovenski strokovnjaki smo gostom predstavili osnovne principe delovanja donorskega in transplantacijskega sistema, zakonodajo in organizacijsko mrežo Slovenija-transplanta, delovanje transplantacijske koordinacije, finančne vidike in informacijsko podporo za zbiranje podatkov na področju darovanja in presaditve organov, tkiv in celic, načine izobraževanja in ozaveščanja strokovne in splošne javnosti ter sodelovanje na mednarodnem nivoju. Delegacijo so na sestanku sprejeli tudi predstavniki Ministrstva za zdravje RS, moldavski gostje pa so obiskali tudi transplantacijski center v UKC Ljubljana.

4. Obeleževanje Evropskega dneva darovanja 2017:

Evropski dan darovanja organov in tkiv smo obeležili na nekoliko drugačen način. Oprli smo se na film in roman francoske avtorice Maylis de Kerangal **Pokrpajmo žive** (založba Sanje, 2017), ki kot medija sporočanja ponujata več prostora in sta drugačni orodji za doseganje javnosti. Pozornost smo namreč želeli usmeriti na postopke, ki zaradi nepoznavanja detajlov običajno ostajajo prekriti za stereotipnim nerazumevanjem dejavnosti. Središčni dogodek obeleževanja Evropskega dneva darovanja se je tako odvil na premieri filma v sklopu 28. ljubljanskega filmskega festivala. Ogledu filma je sledil pogovor ob okrogli mizi, na kateri so sodelovali igralka in pisateljica Dra-

ga Potočnjak, filozof Jure Capuder, anesteziologinja, specialistka intenzivne medicine in direktorica zavoda prim. Danica Avsec in Tina Belej, ki je pred časom urgentno potrebovala zdravljenje s presaditvijo jeter. Pogovor je umetelno povezovala Tjaša Koprivec. Gostje so odpirali svež pogled na razumevanje transplantacijske dejavnosti in na vse, ki so vpleteni v procese.

5. Spremembe v organizacijski strukturi donorskega programa v donorski bolnišnici:

Intenzivno smo iskali rešitve za oživitve donorskega programa v vseh donorskih bolnišnicah. Pričeli smo z UKC Maribor, kjer smo preteklo leto (2016) zabeležili izrazit padec v prepoznavi in realizaciji možgansko mrtvih darovalcev. Naredili smo organizacijsko spremembo in namesto enega BTK uvedli ekipo koordinatorjev. S tem smo želeli razbremeniti obstoječe BTK, ki so do sedaj delovali večinoma sami, kar je predstavljalo resne probleme v času dopustov, bolniških odsotnosti in izobraževanj. Poleg tega smo želeli tudi nekatere starejše BTK zamenjati z novimi, mlajšimi, starejšim pa ponuditi vlogo mentorja, kar so večinoma z zadovoljstvom sprejeli. Svežo ekipo smo sestavili iz 5 zdravnikov anesteziologov intenzivistov, ki se med seboj lahko enakovredno dopolnjujejo in nadomeščajo, vlogo vodje ekipe pa je prevzel BTK. Podobno shemo bomo v letu 2018 uvedli še v preostalih donorskih bolnišnicah, kjer poleg BTK predvidevamo še vsaj 1-2 člana ekipe. Z novimi ukrepi se je število darovalcev do konca leta 2017 v UKC Maribor zvišalo za 4 x v primerjavi z letom 2016.

6. Nova upravna struktura v Eurotransplantu:

V Eurotransplantu so postavili novo upravno strukturo. Upravnemu odboru so dodali administrativni svet, ki ga sestavljajo predstavniki odgovornih inštitucij vseh držav članic Eurotransplanta. Na ta način bodo imele posamezne države boljši nadzor nad skladnostjo postopkov z nacionalnimi pravili in zakonodajo. Poenostavljena bo komunikacija med posamezno državo in upravnim odborom Eurotransplanta, države se bodo odslej tudi lažje pogajale za določitev višine stroškov. Do-

sedanji upravni odbor se bo preimenoval v strokovni svet, ki se bo ukvarjal le s strokovnimi medicinskimi vprašanji, ki so pogosto zelo zapletena, zlasti pri usklajevanju priporočil oziroma zahtev za vse države članice s potrebami na nacionalni ravni.

7. Organizacija tečajev in izobraževanj:

Strukturirano in kontinuirano izobraževanje strokovne javnosti je ključnega pomena za uspešen razvoj in delovanje donorske in transplantacijske dejavnosti. Med drugim smo v letu 2017 več pozornosti namenili izobraževanju o vigilanci, ki je ključna za zagotavljanje kakovosti in varnosti transplantacijske dejavnosti in skrbeli za implementacijo določb pravilnika. V oktobru smo v sodelovanju s špansko organizacijo DTI, ki že več kot dve desetletji izvaja program TPM (*Transplant Procurement Management*), šestič zapored organizirali tridnevni intenzivni tečaj s področja pridobivanja in presaditve organov (tako imenovani *Intermediate Training Course in Transplant Coordination*). Izvedli smo tudi dve ponovitvi izobraževanja Osnove donorskega programa za zdravstvene delavce, eno delavnico o sporočanju slabe novice in pogovoru s svojci in dve izobraževanji za pooblaščen osebe za sprejem opredelitev glede darovanja organov in tkiv po smrti.

8. Sodelovanje v EU-projektu EUDONORGAN:

Slovenija-transplant sodeluje kot partner pri evropskem projektu EUDONORGAN (*Training and social awareness for increasing organ donation in the European Union and neighboring countries*). S predstavniki s Hrvaške vodi delovni sklop Ozaveščanje javnosti. Septembra je v Španiji potekal enotedenski izobraževalni seminar (*Train the trainers*), kjer sta v mednarodni ekipi strokovnjakov pri več-mesečnih pripravah spletnih izobraževalnih vsebin ter scenarijev za delavnice pri modulu Komunikacija o darovanju organov sodelovali prim. Danica Avsec in dr. Jana Šimenc, strokovna sodelavka Slovenija-transplanta. Slednja je bila tudi vključena v izvedbo delavnic, prim. Avsec pa se je pridružila strokovnemu vodstvu pri zaključni delavnici. Na izobraževanju je bilo skoraj 100 udeležencev iz večine evropskih držav, tudi štiričlanska slovenska ekipa.

9. Sodelovanje z ostalimi organizacijami na področju zbiranja opredelitev glede darovanja in ozaveščanja široke javnosti:

Zavod za transfuzijsko medicino (ZTM): Razširili smo sodelovanje z ZTM, s katerim sodelujemo že od začetka vzpostavitve nacionalnega registra leta 2004, vendar je bilo do leta 2017 edino pooblaščenno mesto na sedežu ZTM v Ljubljani. V oktobru in novembru leta 2017 smo izvedli dve izobraževanji o osnovah donorskega programa in opredelitvi glede darovanja in izdali pooblastila 31 novim pooblaščenim osebam. Po novem je mogoče opredelitev glede darovanja podpisati tudi na Centrih za transfuzijsko dejavnost Novo mesto, Slovenj Gradec, Trbovlje, Izola, Nova Gorica in Jesenice. Izjave je pri novih pooblaščenih osebah mogoče podpisati tudi v okviru krvodajalskih akcij na terenu.

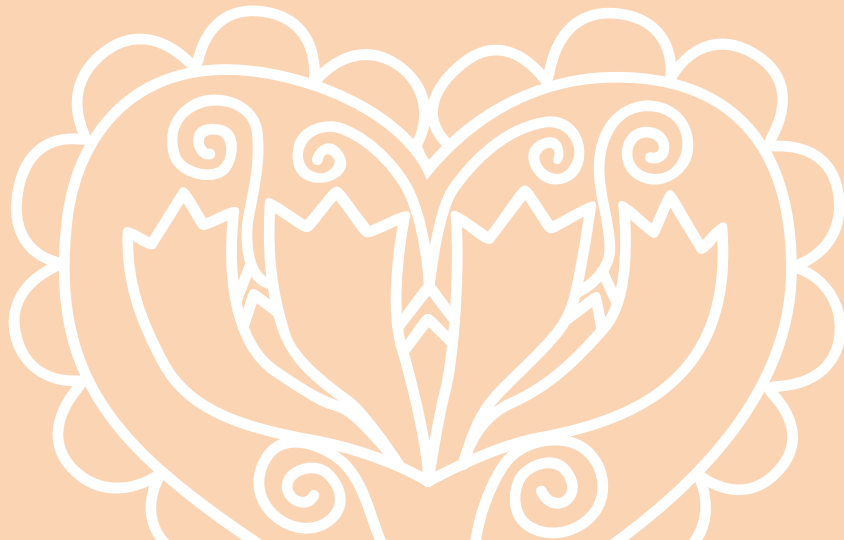
Rdeči križ Slovenije (RKS): Naš največji partner z najbolj razvejano mrežo pooblaščenih mest je RKS. Sekretarji in ostali zaposleni na vseh območnih združenjih RK so pooblaščenji za zbiranje izjav in za njih vsako leto izvedemo predavanje o novostih in osvežimo njihovo znanje. Na RKS-OZ Ljubljana pod sloganom »Krvodajalstvo, pojem prostovoljstva in solidarnosti« delujeta Klub 25, to so mladi prostovoljci – animatorji in Klub 100 kapljic, v katerem so dolgoletne/i izkušene/i krvodajalke in krvodajalci, ki skupaj svoje izkušnje in znanje prenašajo na mlade ter jih motivirajo za darovanje krvi in podpis izjav za darovanje organov in tkiv po smrti. Prostovoljci – animatorji Kluba 25 in Kluba 100 kapljic izvajajo predstavitve krvodajalstva in darovanje organov in tkiv po smrti dijakom 3. in 4. letnikom srednjih šol v Ljubljani, kolektivom osnovnih in srednjih šol, zaposlenim v podjetju in članom društva.

Projekt Epruvetka: v obliki strokovne podpore smo nadaljevali sodelovanje s projektom Epruvetka, pri katerem mariborski študenti medicine s predavanji o krvodajalstvu in o darovanju organov ozaveščajo predvsem srednješolce po Sloveniji. Za sodelavce projekta Epruvetka in študente mariborske medicinske fakultete smo strokovnjaki iz Slovenija-transplanta v marcu predavali o Osnovah donorskega programa.

BELEŽKE



Solidni organi



NACIONALNI ČAKALNI SEZNAM ZA PRESADITVE ORGANOV

Čakalni seznam je seznam bolnikov, ki čakajo na del človeškega telesa za presaditev z namenom zdravljenja. Indikacije za presaditev so za vsak organ/tkivo/celico specifične. Vsi bolniki v Republiki Sloveniji imajo enake možnosti za uvrstitev na čakalni seznam prejemnikov in zagotovljen enak dostop do presaditve delov človeškega telesa. V Sloveniji je na nacionalni čakalni seznam za presaditev organa letno uvrščenih dobrih sto bolnikov (glej tabelo za natančne podatke), povprečna čakalna doba pa je za vse organe v primerjavi z ostalimi državami relativno kratka. Slovenski bolniki čakajo na presaditev srca, jeter ali ledvice v povprečju manj kot leto dni.

LEGENDA

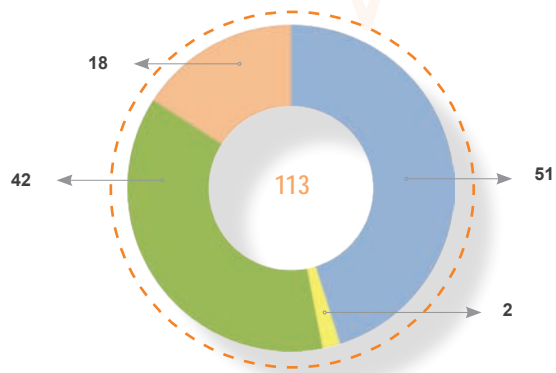
■ Ledvica (51)	■ Ledvica in trebušna slinavka (2)
■ Srce (42)	■ Jetra (18)

Stanje na nacionalnem čakalnem seznamu na dan 31. 12. 2017 (aktivni čakajoči)

Ledvica	Ledvica in trebušna slinavka	Ledvica in jetra	Srce
51	2	0	42
Srce in jetra	Srce in ledvica	Jetra	Trebušna slinavka
0	0	18	0
SKUPAJ			113 bolnikov

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

Delež bolnikov na nacionalnem čakalnem seznamu po posameznem organu oz. kombinaciji organov v letu 2017

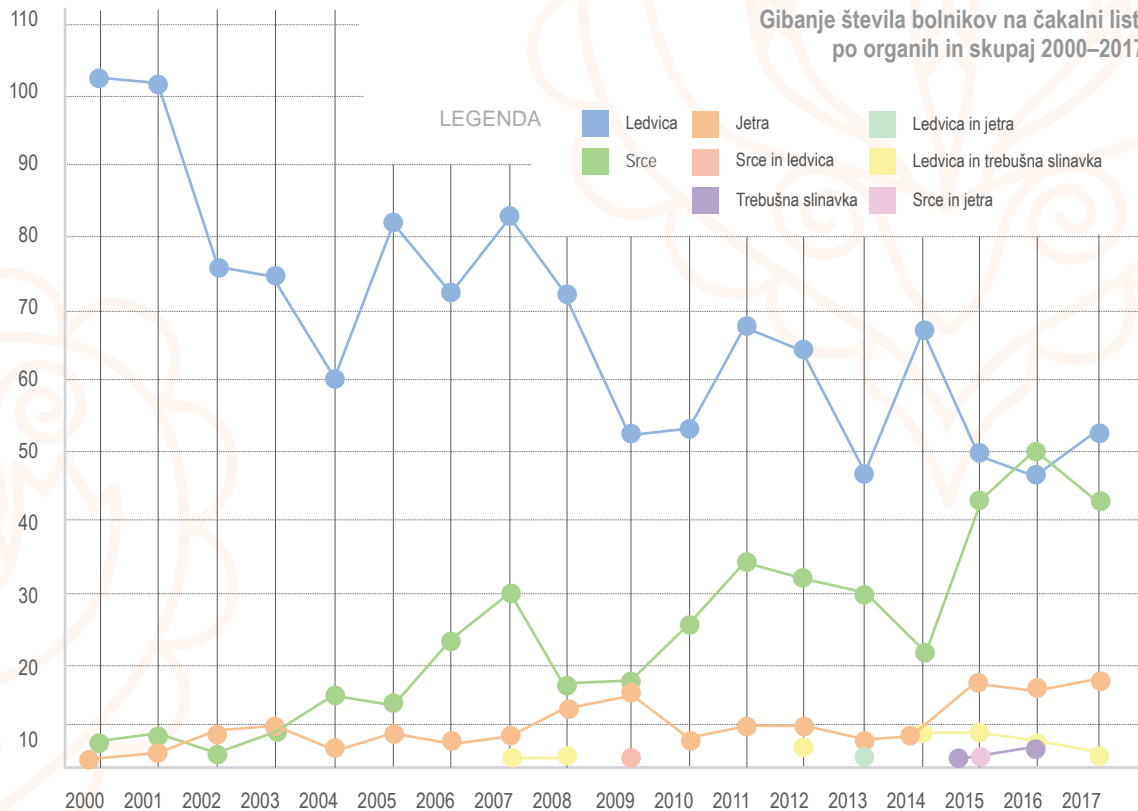


Nacionalni čakalni seznam v obdobju 2000–2017 (stanje na dan 31. 12., aktivni čakajoči)

Leto	Ledvica	Ledvica in trebušna slinavka	Ledvica in jetra	Srce	Srce in jetra	Srce in ledvica	Jetra	Trebušna slinavka	SKUPAJ
2000	102			7			2		111
2001	101			8			4		113
2002	76			2			7		85
2003	75			9			8		92
2004	60			15			4		79
2005	81			14			9		104
2006	72			24			6		102
2007	83	1		30			9		123
2008	71	1		17			13		102
2009	52			18		1	15		86
2010	53			26			8		87
2011	68			34			10		112
2012	65	2		32			10		109
2013	47		1	30			7		85
2014	69	8		21			9		107
2015	50	8		42	1		18	1	120
2016	47	3		50			17	2	119
2017	51	2		42			18		113

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

Gibanje števila bolnikov na čakalni listi po organih in skupaj 2000–2017



ŠTEVILO UMRLIH DAROVALCEV

V letu 2017 smo v slovenskih donorskih bolnišnicah pridobili 43 aktivnih* umrlih darovalcev, ki so bili medicinsko ustrezni in za katere smo pridobili privolitev svojcev. Spodaj so prikazani podatki o številu dejanskih umrlih darovalcev, kar pomeni, da je bil od vsakega darovalca presajen vsaj en organ. V primerjavi z ostalimi državami članicami Eurotransplanta se Slovenija po številu umrlih darovalcev na milijon prebivalcev v letu 2017 uvršča na četrto mesto.

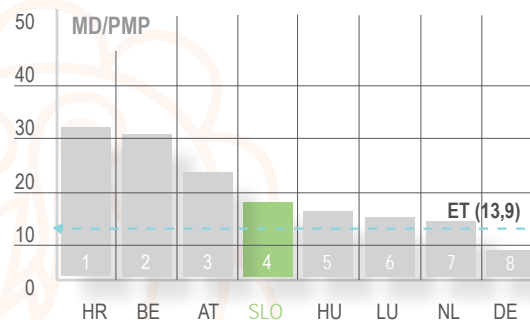
Število dejanskih umrlih darovalcev (MD) na milijon prebivalcev (PMP) v Sloveniji v letu 2017 in v primerjavi z vsemi državami Eurotransplanta.

Država	Slovenija (SLO)	Eurotransplant (ET)
Število MD	39	1.942
MD/PMP	18,9	13,9

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

Število dejanskih umrlih darovalcev na milijon prebivalcev (MD/PMP) ter primerjava z ostalimi državami članicami Eurotransplanta v letu 2017

Država ET	Število MD/PMP 2017
1. Hrvaška (HR)	31,8
2. Belgija (BE)	30,6
3. Avstrija (AT)	23,5
4. Slovenija (SLO)	18,9
5. Madžarska (HU)	15,4
6. Luksemburg (LU)	15,2
7. Nizozemska (NL)	14,3
8. Nemčija (DE)	9,3



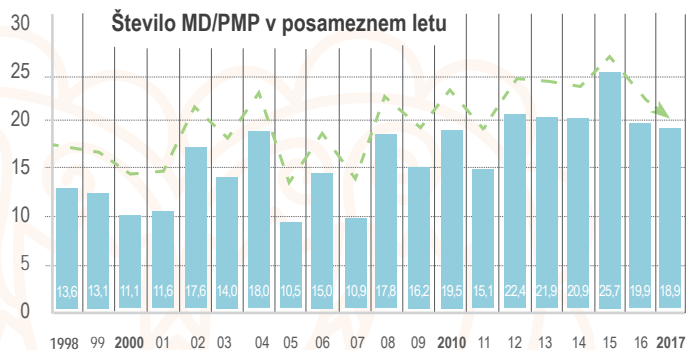
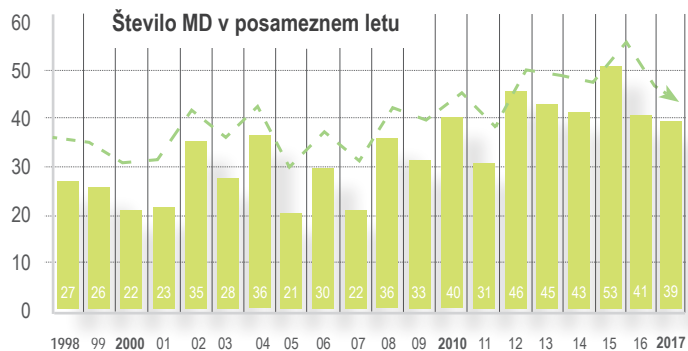
Število dejanskih umrlih darovalcev (MD) ter število umrlih darovalcev na milijon prebivalcev (MD/PMP) Sloveniji v letih od 1998 do 2017

Leto	Število MD	Število MD/PMP
1998	27	13,6
1999	26	13,1
2000	22	11,1
2001	23	11,6
2002	35	17,6
2003	28	14
2004	36	18
2005	21	10,5
2006	30	15
2007	22	10,9
2008	36	17,8

Leto	Število MD	Število MD/PMP
2009	33	16,2
2010	40	19,5
2011	31	15,1
2012	46	22,4
2013	45	21,9
2014	43	20,9
2015	53	25,7
2016	41	19,9
2017	39	18,9
SKUPAJ	677	16,7

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

Število dejanskih umrlih darovalcev (MD) in število dejanskih umrlih darovalcev na milijon prebivalcev (MD/PMP) v Sloveniji v letih od 1998 do 2017



* Klasifikacija umrlih darovalcev organov

MOREBITEN UMRLI DAROVALEC ORGANOV		
Bolnik s hudo poškodbo možganov ALI bolnik z zaustavitvijo krvnega obtoka IN očitno medicinsko primeren za darovanje organov		
Darovanje po smrti zaradi zaustavitve krvnega obtoka (DSK)	Lečeči zdravnik prepozna/opozori na možnega darovalca	Darovanje po možganski smrti (DMS)
<p>MOŽEN DAROVALEC (DSK)</p> <p>a. Oseba, pri kateri se je zaustavilo delovanje krvnega obtoka in dihanje, postopki oživljanja se ne uporabijo oz. se ne nadaljujejo. ALI</p> <p>b. Oseba, pri kateri je mogoče predvideti, da se bo v določenem časovnem okviru zaustavilo delovanje krvnega obtoka in dihanje, kar bo omogočilo pridobitev organov.</p>	<p>Razlogi, zakaj možen darovalec ne postane dejanski darovalec</p> <p>SISTEM DELA</p> <ul style="list-style-type: none"> - Zdravstveno osebeje ni prepoznalo /opozorilo na možnega mrtvega darovalca ali primernega darovalca - Možganska smrt ni potrjena (npr. ne izpolnjuje meril) oz. postopek ugotavljanja MS ni zaključen (npr. ker ni na voljo ustreznih diagnostičnih naprav oz. osebja, ki bi opravilo potrditveni test) - Smrt zaradi zaustavitve krvnega obtoka ni pravočasno potrjena - Logistične težave (npr. ekipa za odvzem organov ni na voljo) - Ni ustreznega prejemnika (npr. pri otroku, krvna skupina, pozitivna serologija) <p>DAROVALEC/ORGAN</p> <ul style="list-style-type: none"> - Medicinsko neustrezen (npr. pozitivna serologija, tumor) - Hemodinamska nestabilnost /nepredvidena zaustavitev srca - anatomske, histološke in/ali funkcionalne nepravilnosti organov - Organi poškodovani med postopkom pridobivanja - Nezadostna perfuzija organov ali krvni strdek <p>PRIVOLITEV</p> <ul style="list-style-type: none"> - Umrli je za časa življenja izrazil voljo, da ne želi biti darovalec - Zavrnitev svojcev umrlega - Zavrnitev mrtiškega oglednika ali preiskovalnega sodnika zaradi forenzičnih razlogov 	<p>MOŽEN DAROVALEC (DMS)</p> <p>Oseba, katere klinično stanje kaže na verjetnost, da izpolnjuje merila za možgansko smrt.</p>
<p>PRIMEREN DAROVALEC (DSK)</p> <p>Medicinsko ustrezna oseba, pri kateri je bila ugotovljena smrt na podlagi nepovratne prekinitev delovanja krvnega obtoka in dihanja, glede na relevantno zakonodajo, v časovnem okviru, ki omogoča pridobitev organov.</p>		<p>PRIMEREN DAROVALEC (DMS)</p> <p>Medicinsko ustrezna oseba, pri kateri je bila ugotovljena smrt na podlagi nevroloških meril, glede na relevantno zakonodajo.</p>
<p>AKTIVEN DAROVALEC (DSK)</p> <p>Primeren darovalec, za katerega imamo privolitev</p> <p>a. Narejen je bil operacijski rez z namenom pridobitve organov za namen presaditve. ALI</p> <p>b. Pridobljen je bil vsaj en organ za namen presaditve.</p>		<p>AKTIVEN DAROVALEC (DMS)</p> <p>Primeren darovalec, za katerega imamo privolitev</p> <p>a. Narejen je bil operacijski rez z namenom pridobitve organov za namen presaditve. ALI</p> <p>b. Pridobljen je bil vsaj en organ za namen presaditve.</p>
<p>DEJANSKI DAROVALEC (DSK)</p> <p>Aktiven darovalec, od katerega je bil presajen vsaj en organ.</p>		<p>DEJANSKI DAROVALEC (DMS)</p> <p>Aktiven darovalec, od katerega je bil presajen vsaj en organ.</p>

Upoštevatı je potrebno »pravilo umrlega darovalca«. Bolnik lahko postane darovalec šele po smrti, pridobitev organov ne sme povzročiti smrti darovalca.

REGISTER OPREDELJENIH OSEB GLEDE DAROVANJA ORGANOV IN TKIV PO SMRTI IN ODSOTKI ODKLONITEV PRI POGOVORU S SVOJCI

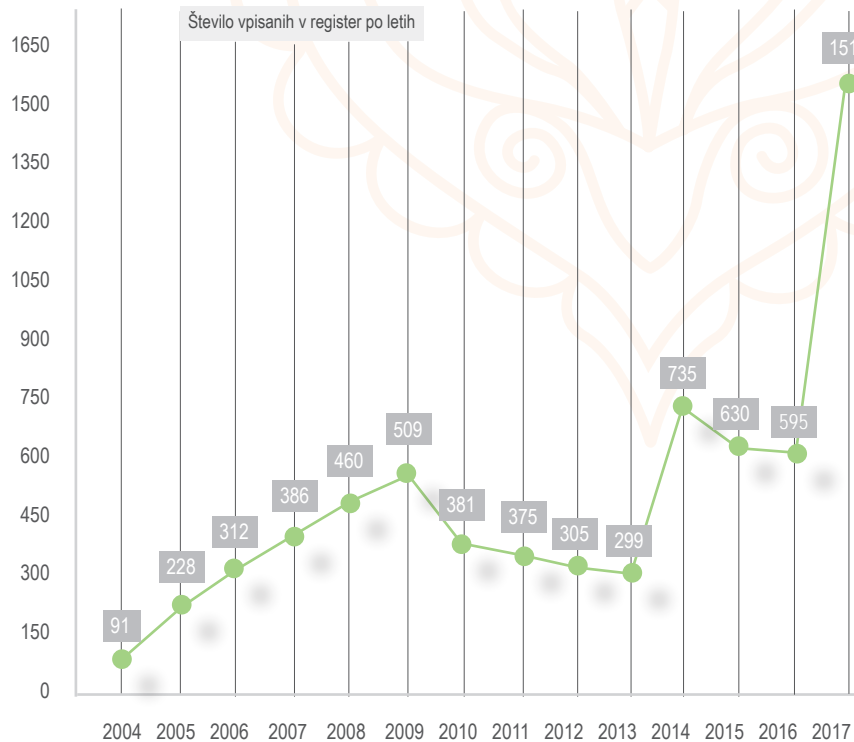
Vsak slovenski državljan ima za časa življenja pravico in možnost za opredelitev glede darovanja organov in tkiv. Odločitev formalno potrdimo z vpisom v nacionalni register opredeljenih oseb, ki je bil vzpostavljen leta 2004. Izjavo o opredelitvi glede darovanja lahko podpišemo na pooblaščenih mestih v več krajih po Sloveniji (natančen seznam je objavljen na www.slovenija-transplant.si). Od junija 2017 je poleg opredelitve za darovanje mogoča tudi opredelitev proti darovanju. V letu 2017 smo zabeležili izrazit porast števila opredeljenih za darovanje, kar pripisujemo uspešni družbeno odgovorni akciji »Ne čakaj, postani darovalec«, ki je potekala v začetku leta.

Do sredine leta 2018 v skladu z novo sprejetimi zakonodajnimi določbami načrtujemo tudi možnost elektronske opredelitve s certificiranim digitalnim potrdilom. Na ta način se odzivamo na pobude javnosti ter sledimo informacijskemu razvoju. Pričakujemo, da bo prožnejša oblika vpisa v register prispevala k zvišanju števila opredeljenih posameznikov in posameznic. Do 31. 12. 2017 je bilo v register vpisanih 6.854 darovalcev, kar je relativno nizka številka.

Število vpisanih v registeru opredeljenih posmrtnih darovalcev po letih v obdobju od 2004 do 2017

Leto	Št. vpisanih
2004	91
2005	228
2006	312
2007	386
2008	460
2009	509
2010	381
2011	375
2012	305
2013	299
2014	735
2015	630
2016	595
2017	1.518
SKUPAJ	6.854

Vir: arhiv Slovenija-transplant



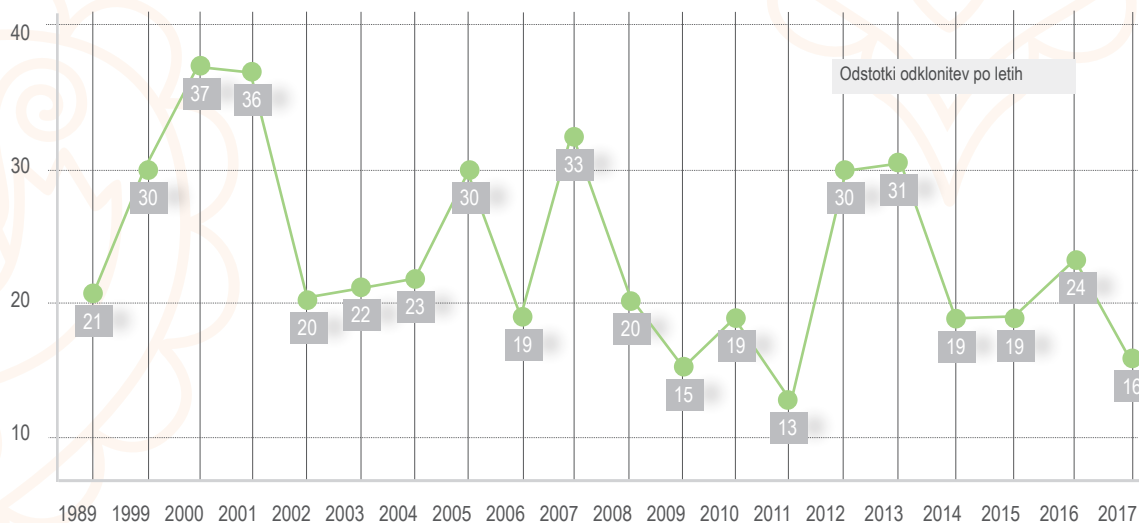
ODSTOTKI ODKLONITEV PRI POGOVORU S SVOJCI

Pogovor s svojci oz. bližnjimi osebami možnega mrtvega darovalca (MMD) glede darovanja se opravi v vseh primerih, ko je možno darovanje organov za presaditev. Transplantacijski koordinator šele po potrditvi smrti ter vpisu časa smrti preveri v registru, ali je bil umrli opredeljen kot darovalec po smrti. Kljub znani opredelitvi centralni koordinator za transplantacijo vedno opravi pogovor o darovanju s svojci umrlega. V pogovoru poskuša izvedeti, kakšno je bilo stališče umrlega glede posmrtnega darovanja. Če volja ni znana, se na koncu odločijo svojci. Vsi postopki so izvedeni z visoko stopnjo tankočutnosti, razumevanja izjemno težkih čustvenih okoliščin ter v skladu z zakonodajnimi določbami in medicinsko doktrino. V Sloveniji imamo v primerjavi z drugimi državami dokaj nizko stopnjo odklonitev svojcev, v letu 2017 je bil odstotek odklonitev najnižji po letu 2011 in sicer je darovanje odklonilo 16% svojcev. Podatki kažejo na visoko zaupanje ter podporo splošne javnosti delovanju donorske in transplantacijske dejavnosti v Sloveniji. Ker je smrt bližnjega za vsakogar izmed nas težka izkušnja, Slovenija-transplant svojcem darovalcev nudi možnost posvetovanja ob žalovanju s strokovno usposobljeno in izkušeno strokovnjakinjo.

Odstotki odklonitve darovanja v obdobju od 1998 do 2017

Vir: arhiv Slovenija-transplant

Leto	%	Leto	%	Leto	%	Leto	%
1998	21	2003	22	2008	20	2013	31
1999	30	2004	23	2009	15	2014	19
2000	37	2005	30	2010	19	2015	19
2001	36	2006	19	2011	13	2016	24
2002	20	2007	33	2012	30	2017	16



DELOVANJE DONORSKIH CENTROV

V slovenski donorski program je vključenih deset donorskih bolnišnic oz. centrov: UKC Ljubljana in UKC Maribor ter splošne bolnišnice v Celju, Murski Soboti, Novi Gorici, Izoli, na Ptuj, v Novem mestu, Slovenj Gradcu in na Jesenicah. Dogovarjamo se tudi za sodelovanje s SB Brežice.

V donorskem centru izvajajo naslednje dejavnosti:

- odkrivajo možne mrtve darovalce,
- izvajajo diagnostiko možganske smrti,
- ugotavljajo primernost organov in tkiv za odvzem in presaditev,
- seznanjajo pokojnikove bližnje z možnostjo darovanja in pridobijo soglasje svojcev,
- ohranjajo delovanje organov mrtvih darovalcev – v intenzivni terapiji in med odvzemom organov,
- sodelujejo pri odvzemih organov in tkiv, ki jih izvajajo slovenske in tuje kirurške ekipe.

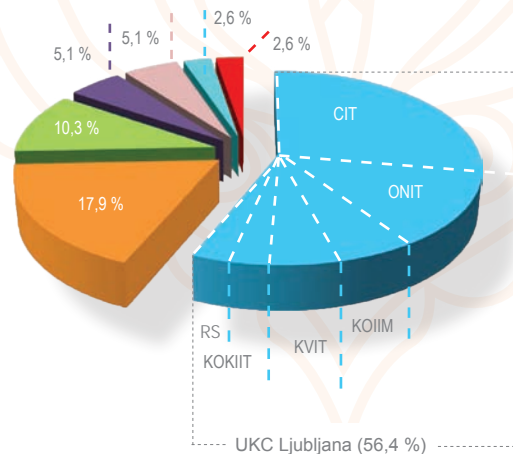
Največ darovalcev v Sloveniji pridobijo v UKC Ljubljana, kjer imajo največje število postelj v enotah intenzivne terapije in so v letu 2017 pridobili 22 umrlih darovalcev. Rezultati so se v primerjavi z letom 2016 izboljšali tudi v UKC Maribor, kjer so v letu 2017 pridobili 7 umrlih darovalcev.

Od leta 2011 smo v nacionalnem donorskem programu vzpostavili program za zagotavljanje kakovosti v procesu darovanja organov in tkiv (*Quality Assurance Plan*), ki se intenzivno izvaja in spodbuja izboljšano delovanje in povezovanje vseh sodelujočih. Cilj je povečati vključenost vseh donorskih centrov v dejavnost pridobivanja organov in tkiv, predvsem na osnovi optimalnega zaznavanja možnih in primernih umrlih darovalcev.

Število in delež dejanskih umrlih darovalcev v posameznih donorskih centrih (DC) v letu 2017

Donorski center	Število MD	Delež v %
UKC Ljubljana skupaj	22	56,4
Od tega ONIT*	6	
Od tega CIT	10	
Od tega KOIIM	2	
Od tega Kvit	2	
Od tega KOKIIT	1	
Od tega RS	1	
UKC Maribor	7	17,9
SB Celje	4	10,3
SB Jesenice	2	5,1
SB Murska Sobota	2	5,1
SB Nova Gorica	1	2,6
SB Ptuj	1	2,6
SKUPAJ	39	100

*ONIT – oddelek nevrološke intenzivne terapije,
 CIT – centralna intenzivna terapija,
 KOIIM – klinični oddelek interne intenzivne medicine
 Kvit – kardiovaskularna intenzivna terapija
 KOKIIT – Klinični oddelek za otroško kirurgijo in intenzivno terapijo
 RS – respiratorni center

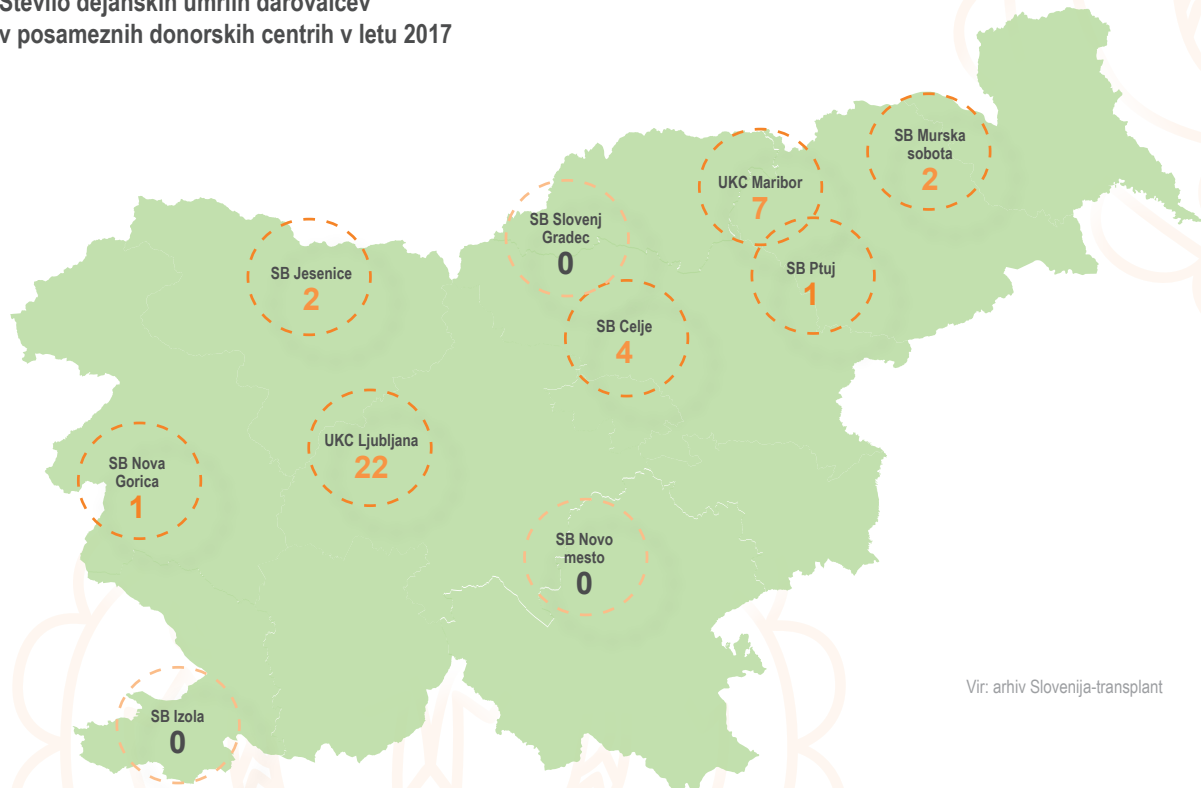


LEGENDA

■ UKC Ljubljana	■ SB Jesenice	■ SB Ptuj
■ UKC Maribor	■ SB Murska Sobota	
■ SB Celje	■ SB Nova gorica	

Vir: arhiv Slovenija-transplant

Število dejanskih umrlih darovalcev v posameznih donorskih centrih v letu 2017



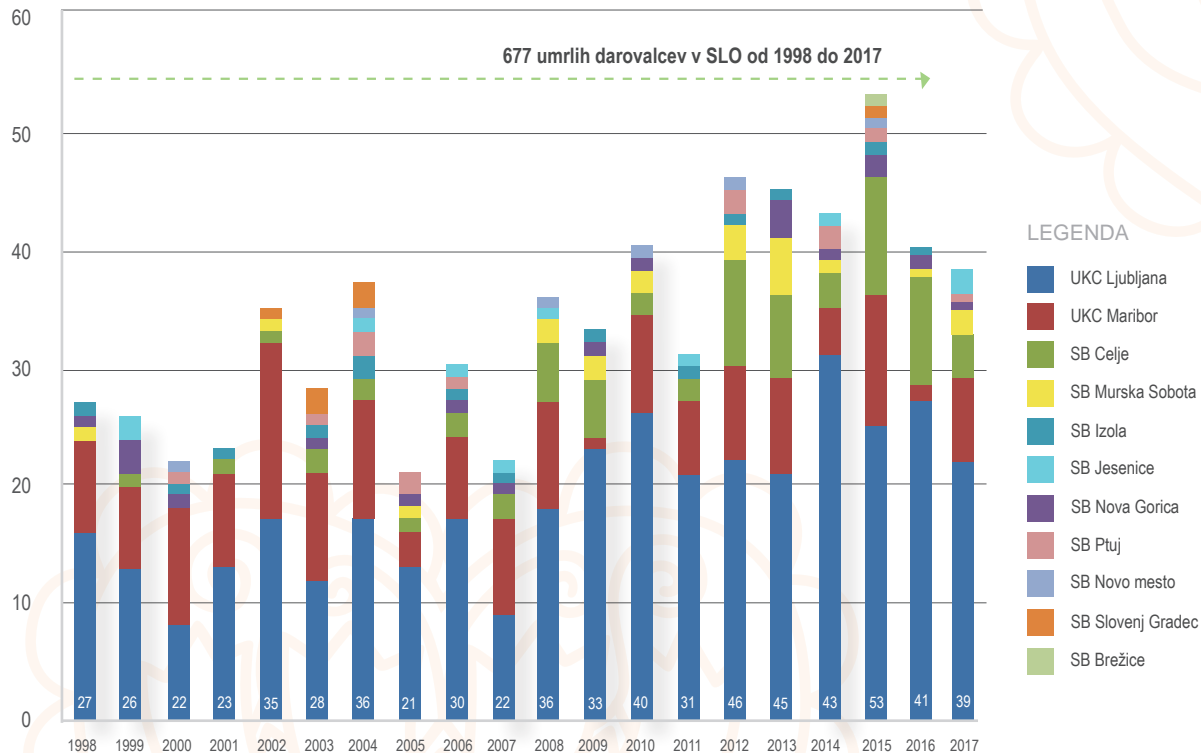
Vir: arhiv Slovenija-transplant

Število dejanskih umrlih darovalcev po donorskih centrih od 1998 do 2017

Vir: arhiv Slovenija-transplant

Leto	UKC LJ	UKC MB	SB CE	SB MS	SB NG	SB Izola	SB Ptuj	SB JE	SB NM	SB SG	SB Brežice
1998	16	8		1	1	1					
1999	13	7	1		3			2			
2000	8	10			1	1	1		1		
2001	13	8	1			1					
2002	17	15	1	1						1	
2003	12	9	2		1	1	1			2	
2004	17	10	2			2	2	1	1	1	
2005	13	3	1	1	1		2				
2006	17	7	2		1	1	1	1			
2007	9	8	2		1	1		1			
2008	18	9	5	2				1	1		
2009	23	1	5	2	1	1					
2010	26	8	2	2	1				1		
2011	21	6	2			1		1			
2012	22	8	9	3		1	2		1		
2013	21	8	7	5	3	1					
2014	31	4	3	1	1		2	1			
2015	25	11	10		2	1	1		1	1	1
2016	28	2	7	1	2	1					
2017	22	7	4	2	1		1	2			
SKUPAJ	372	149	66	21	20	14	13	10	6	5	1

Število dejanskih umrlih darovalcev po donorskih centrih od 1998 do 2017



Seznam odgovornih oseb (t. i. bolnišničnih transplantacijskih koordinatorjev), ki skrbijo za razvoj, potek ter delovanje donorskega programa v posameznih donorskih centrih – leto 2017:

Donorski center	Odgovorne osebe
UKC Maribor	prim. Zoran Zabavnik, dr. med. (<i>Kirurška kl.</i>) / Prof. dr. Andreja Sinkovič, dr. med. (<i>Interna kl.</i>)
SB Celje	Milena Kotnik, dr. med. Namestnica: Barbara Hudournik, dr. med.
SB Murska Sobota	prim. Daniel Grabar, dr. med. Namestnica: Sanja Andrejč, DMS
SB Nova gorica	Konrad Kuštrin, dr. med. Namestnica: Edyta Čerkini, dr. med.
SB Izola	Damjan Polh, dr. med.
SB Ptuj	prim. Majda Šarman, dr. med.
SB Jesenice	Andraž Nastran, dr. med. Namestnica: Branka Gruden Repe, dr. med.
SB Novo mesto	Andreja Colner, dr. med. / Matej Godnič, dr. med. Namestnik: Goran Kurnik, dr. med.
SB Slovenj Gradec	Darja Krevh Golubič, dr. med. / asist. dr. Jasna Uranjek, dr. med. Namestnica: Darja Kasnik, dr. med.
UKC Ljubljana	prim. mag. Rade Stanič, dr. med in centralni transplantacijski koordinatorji Slovenija-transplanta.

PRIDOBLENI SOLIDNI ORGANI ZA NAMEN ZDRAVLJENJA

Število pridobljenih organov je odvisno od števila pridobljenih umrlih darovalcev. V letu 2017 je bilo število pridobljenih organov zaradi manjšega števila umrlih darovalcev nekoliko nižje od preteklega leta. Spodaj so prikazani podatki za leto 2017 in primerjava s preteklimi leti.

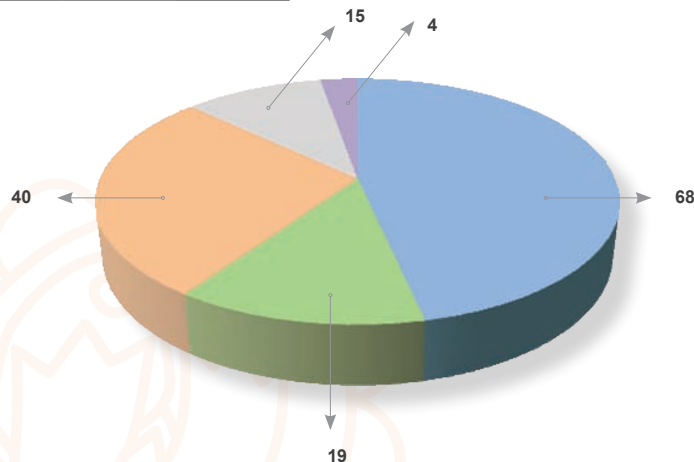
Število pridobljenih organov slovenskih umrlih darovalcev v letu 2017

Ledvica	Srce	Jetra	Pljuča (obe pljučni krili)	Trebušna slinavka	SKUPAJ
68	19	40	15	4	146

Vir: arhiv Slovenija-transplant

LEGENDA

- Ledvica
- Srce
- Jetra
- Pljuča
- Trebušna slinavka



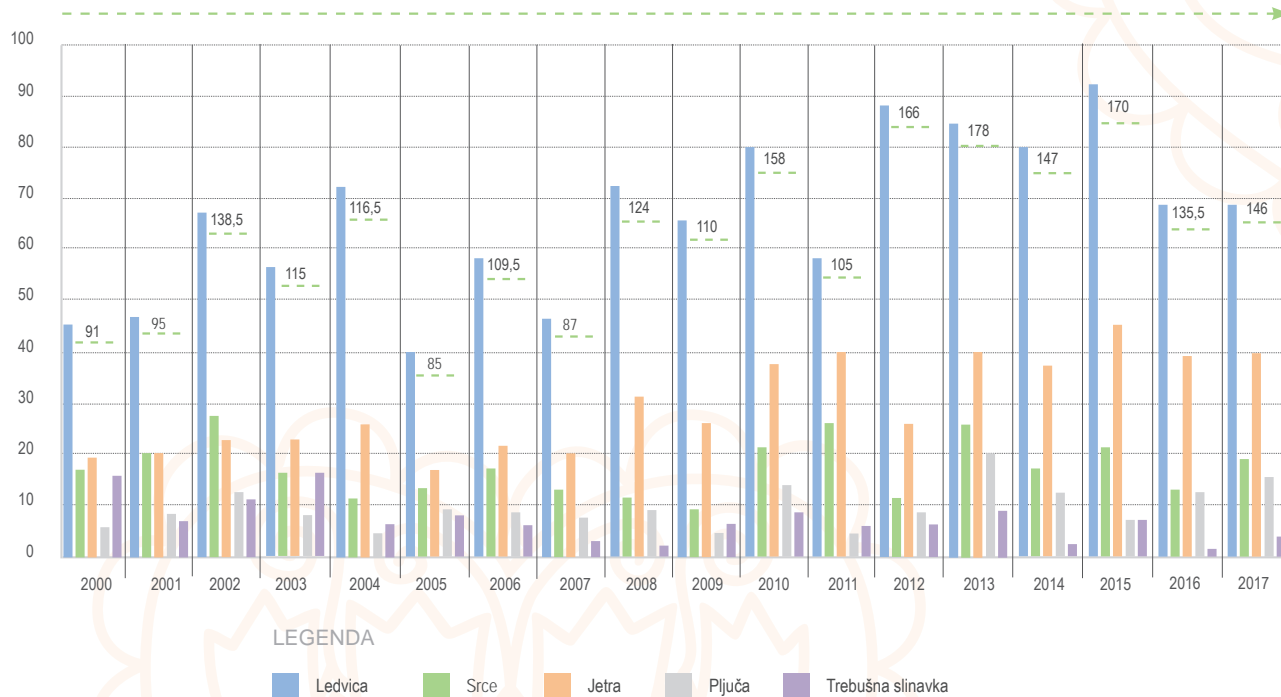
Pridobljeni organi slovenskih umrlih darovalcev od leta 2000 do 2017

Vir: arhiv Slovenija-transplant

Leto	Ledvica	Srce	Jetra	Pljuča (obe pljučni krili)	Trebušna slinavka	SKUPAJ
2000	43	14	17	4	13	91
2001	44	19	19	7	6	95
2002	66	28	22	11,5	11	138,5
2003	56	15	21	8	15	115
2004	70	12	25	3,5	6	116,5
2005	39	13	16	9	8	85
2006	59	16	21	7,5	6	109,5
2007	46	12	19	7	3	87
2008	71	11	31	9	2	124
2009	65	9	26	4	6	110
2010	80	20	37	13	8	158
2011	58	14	24	4	5	105
2012	89	25	39	8	5	166
2013	86	26	39	19	8	178
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
SKUPAJ	1.180	302	519	160	116	2.277

Pridobljeni organi slovenskih umrlih darovalcev od leta 2000 do 2017

2.277 pridobljenih organov umrlih darovalcev v SLO od 2000 do 2017



PRESAJENI SOLIDNI ORGANI

V Sloveniji imamo en transplantacijski center, to je Univerzitetni klinični center v Ljubljani, kjer se izvajajo programi za presaditve solidnih organov. Sistem razporejanja organov zagotavlja enako dostopnost do terapije s presajanjem organov vsem državljanom Slovenije. Naloge transplantacijskega centra so:

- priprava prejemnikov za uvrstitev na čakalni seznam,
- presajanje organov,
- vodenje bolnikov po presaditvi.

Transplantacijski center od leta 2014 vodi kardiovaskularni kirurg dr. Ivan Kneževič, dr. med.

V letu 2017 je bilo opravljenih 93 presaditev, kar je nekoliko nižja številka od povprečja v zadnjih nekaj letih. Največ je presajenih ledvic, po številu vseh presajenih organov na milijon prebivalcev smo nekoliko nad povprečjem držav Eurotransplanta. Pomembno višje je število presaditev src na milijon prebivalcev, kjer smo zadnjih nekaj let v samem svetovnem vrhu.

Presaditve pljuč za slovenske prejemnike opravljajo v AKH na Dunaju, kjer imajo s tovrstnimi posegi ogromno izkušenj. Pediatrične transplantacije delno opravljajo v UKC Ljubljana, delno pa v bližnjih evropskih transplantacijskih centrih (ledvice v LKH v Gradcu, jetra v Bergamu). Za obravnavo in pripravo pred presaditvijo in zdravljenje ter sledenje bolnika po presaditvi organa poskrbijo na pristojnih oddelkih v UKC Ljubljana.

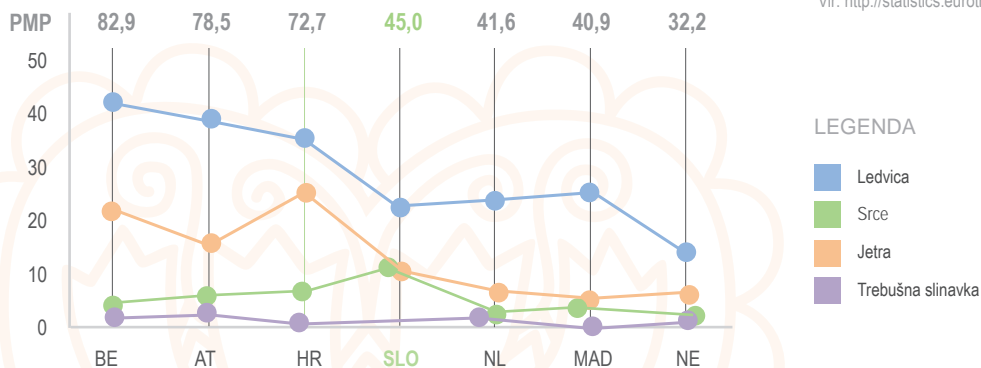
Število presajenih solidnih organov mrtvih darovalcev v UKC Ljubljana v letu 2017 in primerjava z Eurotransplantom

	Ledvica MD	Srce	Jetra	Trebušna slinavka	SKUPAJ
SLO	46	24	23	0	93
SLO/PMP	22,3	11,6	11,1	0	45,0
ET	2.909	534	1.413	130	4.986
ET/PMP	22,6	4,0	11,4	1,2	39,2

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

Število presajenih solidnih organov mrtvih darovalcev na milijon prebivalcev (PMP) v Sloveniji leta 2017 in primerjava z državami Eurotransplanta

Država ET	Ledvica	Jetra	Srce	Trebušna slinavka	Število presaditev/ PMP 2017
Belgija	42,7	23,7	7,0	1,9	82,9
Avstrija	40,9	18,0	7,3	2,3	78,5
Hrvaška	37,1	28,4	7,9	1,2	72,7
Slovenija	22,3	11,3	11,6	0	45,0
Nizozemska	25,1	9,4	2,2	1,9	41,6
Madžarska	26,2	7,6	5,3	0,6	40,9
Nemčija	16,5	9,2	3,1	0,9	32,2

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

Število presajenih solidnih organov umrlih darovalcev v Sloveniji od leta 1970 do 2017

Leto	Ledvica	Srce	Jetra	Pljuča*	Trebušna slinavka	SKUPAJ
Od 1970 do 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

Leto	Ledvica	Srce	Jetra	Pljuča	Trebušna slinavka	SKUPAJ
2001	47	4	9	1		61
2002	55	3	11	1		70
2003	43	3	9	2**		57
2004	55	3	15			73
2005	28	5	13	2		48
2006	48	*8	8	2		65
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		119
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		100
SKUPAJ	1.123	298	335	67	19	1.842

Vse presaditve pljuč pri slovenskih bolnikih z eno izjemo so bile opravljene na Dunaju

* Eno srce slovenskega darovalca je bilo presajeno slovenskemu bolniku v Gradcu

**ena presaditev pljuč je bila opravljena v UKC Ljubljana

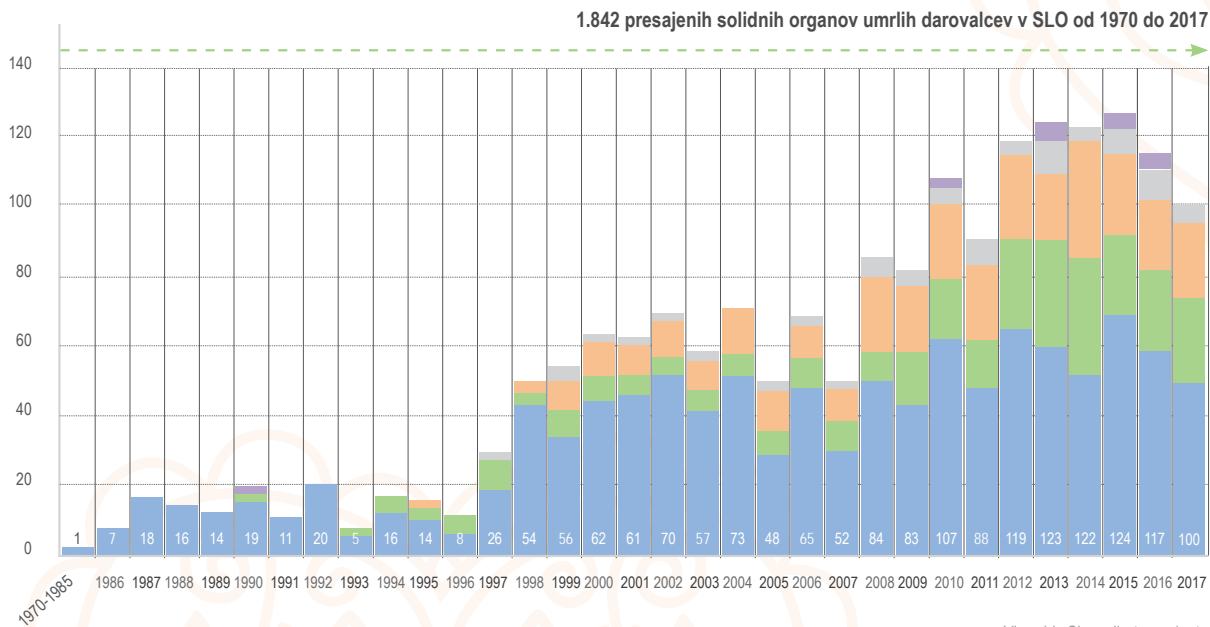
***eno srce je bilo skupaj s pljuči presajeno slovenskemu bolniku na Dunaju

****V letu 2016 in 2017 je sta bili opravljene tudi po dve presaditvi ledvice živega sorodnega darovalca.

Skupno število presajenih ledvic v letu 2016 je torej 46, v letu 2017 pa 48.

Vir: arhiv Slovenija-transplanta

Število presajenih solidnih organov umrlih darovalcev v Sloveniji od leta 1970 do 2017



LEGENDA

■ Ledvica
 ■ Srce
 ■ Jetra
 ■ Pljuča
 ■ Trebušna slinavka

USPEŠNOST SLOVENSКИH PROGRAMOV ZA PRESADITVE ORGANOV

Preživetje bolnikov po presaditvi srca

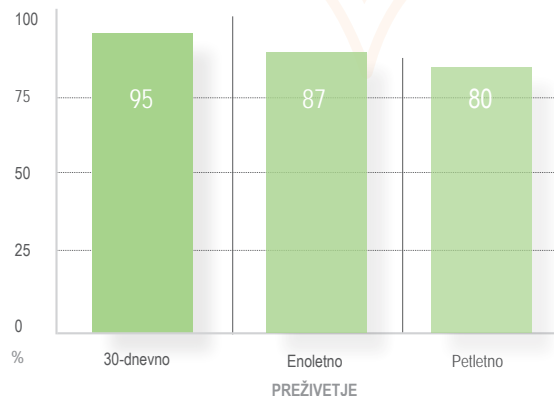
V Sloveniji so konec leta 2017 živeli 203 bolniki s presajenim srcem. Od leta 1990 do konca 2017 je bilo opravljenih 298 presaditev srca. Rezultati preživetja so primerljivi z rezultati iz mednarodnega referenčnega registra ISHLT (The International Society for Heart & Lung Transplantation).

Najpogostejša vzroka za presaditev srca sta v letu 2017 predstavljali ishemična bolezen srca (41 %) in dilatativna kardiomiopatija (30 %), ostali vzroki pa so bili valvularna bolezen srca (8 %), nekompakcijska kardiomiopatija (8 %), aritmogena displazija desnega prekata (8 %) in retransplantacija (5 %).

Preživetje odraslih bolnikov po presaditvi srca v % (za obdobje 1990-2017, n=298)

30-dnevno preživetje	Enoletno preživetje	Petletno preživetje
95 %	87 %	80 %

Vir: Poročilo o delovanju programa za napredovalo srčno popuščanje in presaditev srca za leto 2017 (KO za kardiologijo, UKC Ljubljana)



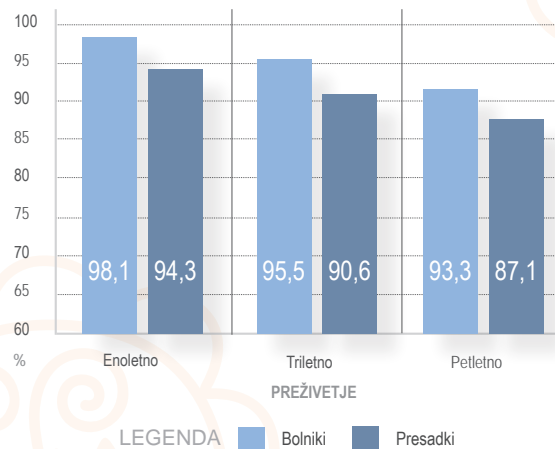
Preživetje bolnikov po presaditvi ledvice

V Sloveniji je bilo v obdobju po priključitvi Eurotransplantu (1.1.2000 – 31.12.2017) presajenih 889 ledvic živih in umrlih darovalcev. Nekaterim prejemnikom so ledvico presadili v kombinaciji z drugimi organi (trebušna slinavka, jetra, srce). Mediani čas od uvrstitve na čakalno listo do presaditve je približno 300 dni za obdobje od 2013 do 2016. V prvem letu po presaditvi so pri 13,7 % vseh bolnikov s presajenim organom zaznali klinično, z biopsijo dokazano akutno zavrnitev presadka.

Preživetje bolnikov in presadkov po presaditvi ledvice v % (za obdobje 2000-2017, n=889)

Enoletno preživetje	Triletno preživetje	Petletno preživetje
Bolniki		
98,1 %	95,5 %	93,3 %
Presadki		
94,3 %	90,6 %	87,1 %

Vir: kazalci kakovosti Centra za transplantacijo ledvic (KO za nefrologijo, UKC Ljubljana)



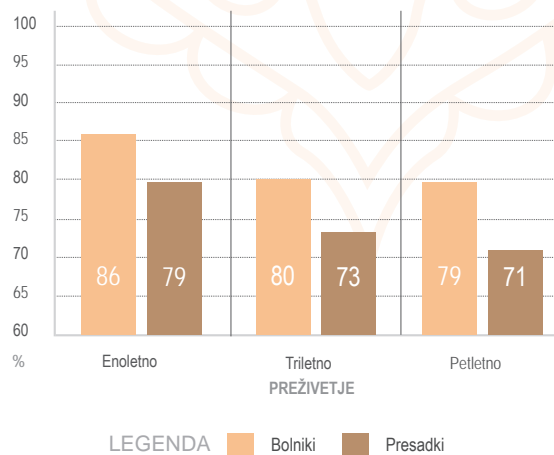
Preživetje bolnikov po presaditvi jeter

V obdobju od 1988 do junija 2017 je bilo v UKC Ljubljana opravljenih 318 presaditev jeter. Od tega je 62,6 % bolnikov potrebovalo presaditev zaradi ciroze jeter, 10,5 % zaradi akutne odpovedi jeter, 9,4 % zaradi raka na jetrih, 9,1 % zaradi holestatske/kongenitalne bolezni in 2,4 % zaradi presnovne bolezni jeter. Med ostale vzroke za presaditev sodijo še benigni jetrni tumorji ali polici-stična bolezen jeter in Budd-Chiarijev sindrom.

Preživetje bolnikov in presadkov po presaditvi jeter v % (za obdobje 1988- junij 2017, n=288 (bolniki) in n= 318 (presadki))

Enoletno preživetje	Triletno preživetje	Petletno preživetje
Bolniki		
86 %	80 %	79 %
Presadki		
79 %	73 %	71 %

Vir: ELTR (European Liver Transplant Registry, SLLUBL: Specific Analyses June 2017)



Preživetje bolnikov po presaditvi trebušne slinavke

V obdobju od februarja 2009 do 28. 2. 2018 je bilo presajenih 18 trebušnih slinavk, vse so bile presajene sočasno z ledvico. Po 1 letu je bilo delujočih 14 trebušnih slinavk, 4 slinavke pa so bile odstranjene v zgodnjem potransplantacijskem obdobju. Enoletno preživetje trebušnih slinavk je 78 %.

Enoletno preživetje bolnikov s presajeno trebušno slinavko in ledvico je bilo 100 %.

Vsi bolniki, ki so imeli po 1 letu delujočo trebušno slinavko, so bili na dan 28. 2. 2018 inzulinsko neodvisni. En bolnik je umrl 6 let po presaditvi z delujočo trebušno slinavko in ledvico.

Vir: Poročilo - lzt. prof. dr. Damjan Kovač, dr. med.
(KO za nefrologijo, UKC Ljubljana)

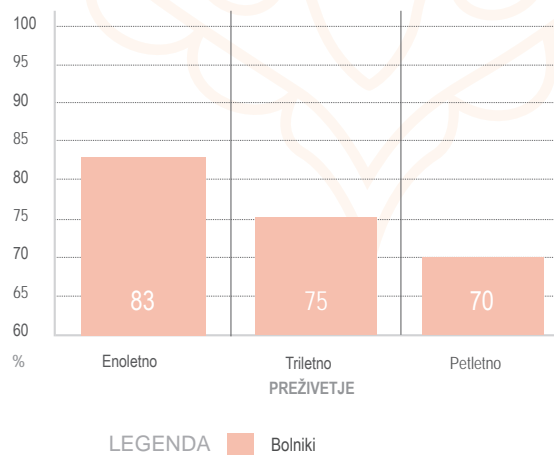
Preživetje bolnikov po presaditvi pljuč

V obdobju 1997 – 2017 je bilo pri slovenskih bolnikih opravljenih 67 presaditev pljuč, od tega 8 v letu 2017.

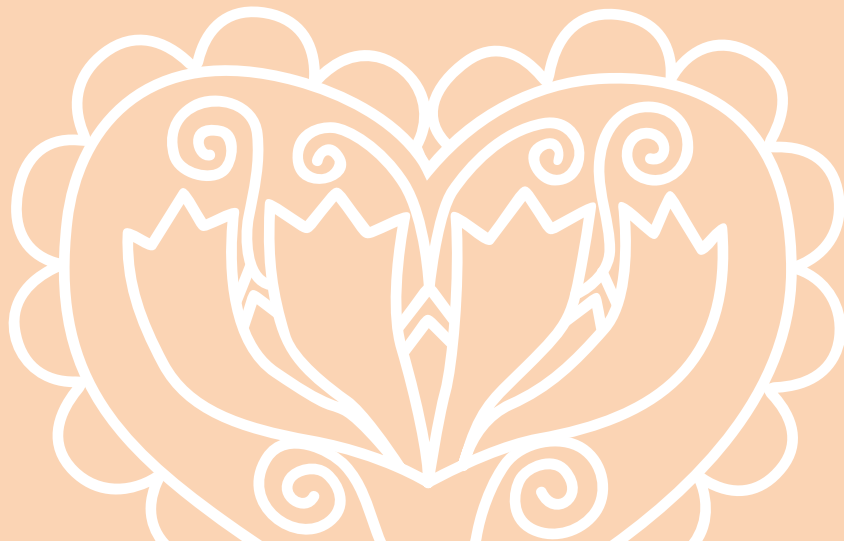
Presaditve pljuč za slovenske prejemnike opravljajo strokovnjaki v univerzitetni bolnišnici (AKH) na Dunaju. Le ena presaditev pljuč je bila leta 2003 opravljena v UKC Ljubljana.

Preživetje bolnikov po presaditvi pljuč v % (za obdobje 1997-2017, n=67)

Enoletno preživetje	Triletno preživetje	Petletno preživetje
Bolniki		
83 %	75 %	70 %



Tkiva in celice



PRESADITVE KRVOTVORNIH MATIČNIH CELIC

Presaditev krvotvornih matičnih celic (KMC) je najbolj razširjena oblika celičnega zdravljenja, saj se na ta način zdravi več kot 70 malignih in nemalignih bolezni, pri določenih hematoloških obolenjih pa je glavna terapevtska in tudi edina možnost za ozdravitev. Sodoben način zdravljenja s KMC v optimalnih pogojih dosega več kot 90 % uspešnost (<http://www.ztm.si>). Za takšen uspeh pa je potrebno dobro imunsko (HLA) ujemanje darovalca in prejemnika. Sistem HLA je pri vsakem človeku zelo raznolik in zato je najti ustrezen par zelo zahtevno delo. V mednarodni skupnosti so se zdravniki odločili za ustanovitev večjih registrov tipiziranih prostovoljnih darovalcev KMC, ki bi omogočali bistveno večjo možnost za ujemanje HLA in s tem uspešnost presaditve. V Sloveniji je bil leta 1991 ustanovljen register nesorodnih darovalcev Slovenija Donor, ki je naslednje leto postal polnopravni član svetovnega registra *Bone Marrow Donors Worldwide (BMDW)*. Vsi podatki so ustrezno zaščiteni pred nepooblaščenno uporabo.

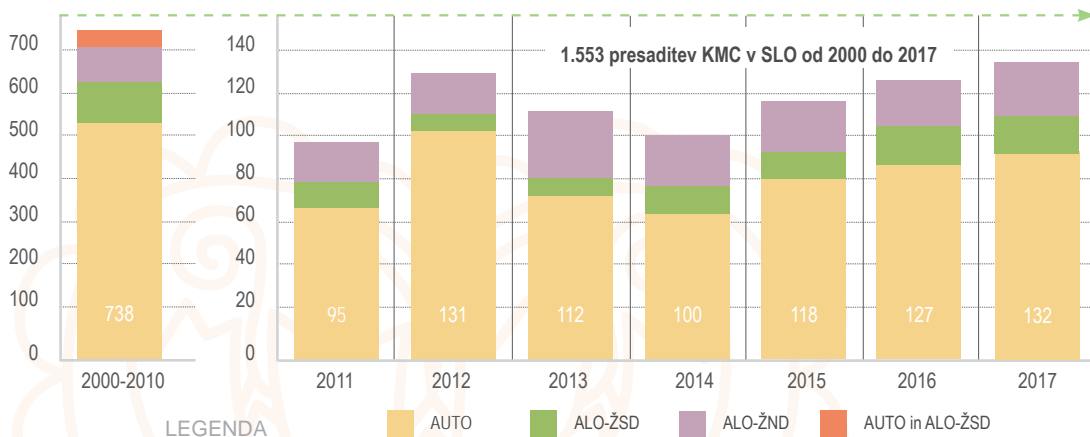
Poznamo več vrst ujemanja med darovalcem in prejemnikom. V kolikor je možno uporabiti lastne KMC, to imenujemo avtologno darovanje. V kolikor to ni možno, iščemo drugega darovalca, ki je s prejemnikom v sorodu ali pa ne. Darovanje drugega darovalca imenujemo tudi alogenično, pri čemer iščemo darovalca v Sloveniji in nato v tujini.

Presaditve KMC v Sloveniji od leta 2000 do 2017

Tip presaditve	2000–2010	2011	2012	2013	2014	2015	2016	2017
AUTO	531	68	101	74	63	84	86	92
ALO-ŽSD	102	9	8	7	11	10	15	12
ALO-ŽND	84	18	22	31	26	24	26	28
AUTO in ALO-ŽSD	21							
SKUPAJ	738	95	131	112	100	118	127	132

AUTO – avtologne presaditve, **ALO** – alogenske presaditve, **ŽSD** – živi sorodni darovalec, **ŽND** – živi nesorodni darovalec

Vir: arhiv Slovenija-transplanta, podatke mesečno pridobivamo od ZTM – Slovenija donor.

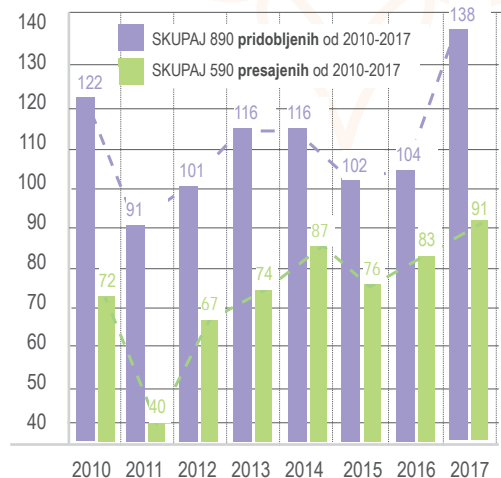


PROGRAM PRIDOBIVANJA IN PRESADITVE ROŽENIC

Zdravljenje s presaditvijo roženic je ena najpogostejših in tudi najuspešnejših presaditev tkiv na svetu. Takšen način zdravljenja pogosto predstavlja edini način, s katerim izboljšamo vid zaradi predhodnega obolenja oz. poškodb. V Sloveniji imamo organizirano nacionalno mrežo donorskih centrov, v katerih se pridobivajo roženice mrtvih darovalcev po dokončni zaustavitvi srca ali po dokazani možganski smrti. Odvzem roženic je možen po predhodni privolitvi umrle osebe za časa življenja oz. ob nenasprotovanju bližnjih. Dokončno odločitev o primernosti roženice za presaditev vselej sprejme prejemnikov odgovorni zdravnik. Roženice presajamo v dveh transplantacijskih centrih: na Očesni kliniki v UKC Ljubljana ter na Oddelku za očne bolezni v UKC Maribor.

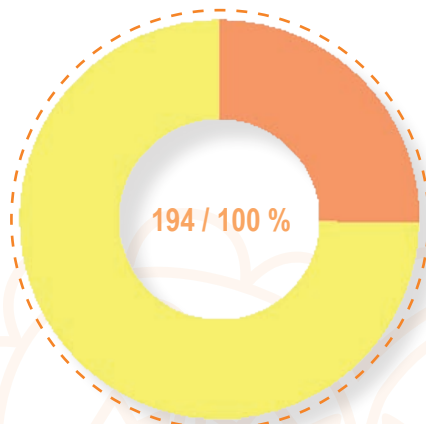
Pridobljene in presajene roženice (na Očesni kliniki v UKC Ljubljana) od leta 2010 do 2017

Leto	Št. pridobljenih roženic	Št. presajenih roženic
2010	122	72
2011	91	40
2012	101	67
2013	116	74
2014	116	87
2015	102	76
2016	104	83
2017	138	91



Čakalni seznam bolnikov za presaditev roženice na Očesni kliniki v UKC Ljubljana (na dan 9. 3. 2018)

Diagnoza	Število bolnikov
Keratokonus	49
Ostale diagnoze	145
SKUPAJ	194



LEGENDA

- Keratokonus: **49 bolnikov (25 %)**
- Ostale diagnoze: **145 bolnikov (75 %)**
(poškodbe, degeneracija, retransplantacija, makule roženice, distrofija Fuchs, endotelna distrofija, cornea guttata, afaka in psevdofaka, keratopatija bullosa, vnetja, drugo)

Vir: Očesna klinika Ljubljana

OSTALA TKIVA IN CELICE

Na nacionalni ravni preskrbe s tkivi in celicami je vključenih 25 ustanov. Slovenija-transplant in Agencija za zdravila in medicinske pripomočke zagotavljata delovanje sistema in sproti ugotavljata in obravnavata vse odklone, ki lahko vplivajo na kakovost in varnost tkiv in celic darovalcev, prejemnikov in osebja, ki je vključeno v posamezne procese.

V letu 2015 je začela veljati sprememba Pravilnika o sledljivosti, s katero ukinjamo uporabo klasičnih obrazcev za sprotno poročanje in uvajamo sodobno elektronsko poročanje preko svetovnega spleta. Takšno poročanje je hitrejše in enostavnejše za uporabnike. Poleg tega omogoča dostopnost podatkov po načelu »enkrat vnesen podatek, vedno dostopen«, tako da jih lahko uporabniki programa uporabljajo tudi pri svojem strokovnem in raziskovalnem delu. Vnos podatkov je možen tudi za nazaj. Ob koncu 2017 je takšen način prevzelo že nekaj ustanov za tkiva in celice.

Število pridobljenih tkiv in celic od 2009 do 2017

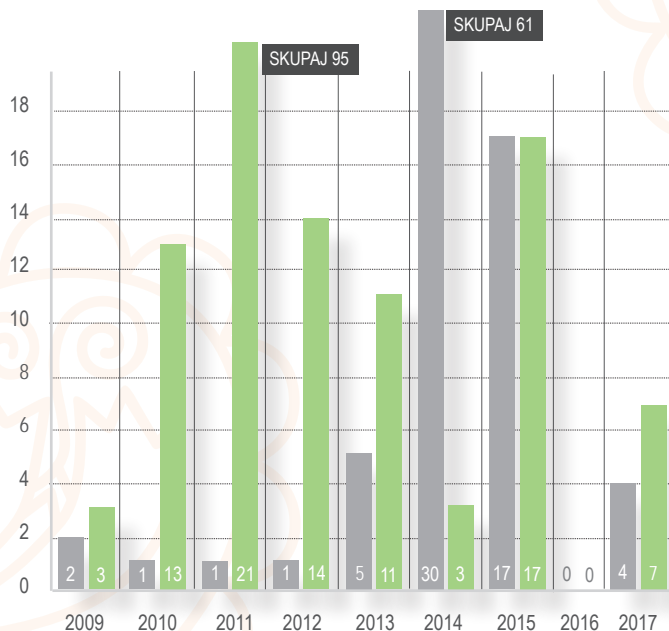
Leto	2009	2010	2011	2012	2013	2014	2015	2016	2017
Koža	28	45	22	36	85	89	52	57	32
Kosti	38	123	108	67	93	82	147	74	80
Mehkokostni presadki	22	39	/	3	11	3	9	/	12
Hrustanec	37	21	4	12	11	11	12	/	/
Reprodukтивne celice	15.854	43.472	8.640	27.479	41.929	37.542	39.769	26.191	36.338

Število uporabljenih tkiv in celic od 2009 do 2017

Leto	2009	2010	2011	2012	2013	2014	2015	2016	2017
Koža	36	10	14	34	67	23	31	28	/
Kosti	23	47	57	97	59	62	92	82	72
Mehkokostni presadki	12	/	2	2	3	4	3	5	2
Hrustanec	15	/	3	7	4	9	5	1	/
Reprodukтивne celice	1.450	2.018	29.651	23.330	23.506	27.271	31.127	26.620	31.817

Vir: arhiv Slovenija-transplant

Število neželenih dogodkov in reakcij od 2009 do 2017



Vir: arhiv Slovenija-transplant

LEGENDA

■ Neželene reakcije ■ Neželeni dogodki

VIRI

1. Spletna stran Slovenija-transplanta: <http://www.slovenija-transplant.si/>.
2. Spletna stran Zavoda RS za transfuzijsko medicino: <http://www.ztm.si/register-darovalcev/slovenija-donor/>.
3. Zakon o pridobivanju in presaditvi delov človeškega telesa zaradi zdravljenja (ZPPDČT), Ur. l. RS, št. 56/2015
4. Council of Europe Convention against Trafficking in Human Organs (CM, 9. 7. 2014)
5. Spletna stran Eurotransplanta: <http://www.eurotransplant.org/cms/>.
6. Spletna stran European Directorate for the Quality of Medicines and Healthcare EDQM: <https://www.edqm.eu/>.
7. 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; 6.th ed. 2016.
8. 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; 3.nd ed. 2017.
9. The Madrid Resolution on Organ Donation and Transplantation: https://www.edqm.eu/sites/default/files/article_the_madrid_resolution_on_organ_donation_and_transplantation_transplantation_journal_june_2011.pdf
10. Razvoj Transplantacijske medicine v Sloveniji: programi, smernice in perspektive. Urednici Danica Avsec in Zvonka Zupanič Slavec; ilustracije Radko Oketič. Ljubljana: Zavod RS za presaditve organov in tkiv Slovenija-transplant; Celje: Celjska Mohorjeva družba: Društvo Mohorjeva družba, 2016.
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**Donor and transplantation activity
in Slovenia in 2017**



Editorial

Donor and transplantation activity in Slovenia is managed, co-ordinated, promoted and supervised by the public, non-profit Institute of the Republic of Slovenia for the Transplantation of Organs and Tissues Slovenija-transplant, under the auspices of the Ministry of the Republic of Slovenia for Health. Since its establishment (in 2000) the Institute has been constantly developing in accordance with the recommended international guidelines, striving to form a cohesive professional public and consistently increasing the trust of the general public. Thanks to its memberships in international committees and participation in several European project consortiums, it has gained an equal footing in the international arena and become an active co-creator of relevant strategies and activities. In its management and leadership of the activities of procuring and using parts of the human body for the purpose of medical treatment, Slovenija-transplant adheres to the following principles:

self-sufficiency | equal treatment of patients | optimal efficiency | applicable legislation |
medical ethics and deontology | professionalism | a non-commercial orientation |
transparency | voluntariness.

Slovenija-transplant is the central connecting institution and main co-ordination office of the national transplantation network established in 1998. The national network consists of ten donor centres, the transplantation centre in the Ljubljana University Medical Centre and the Tissue Typing Centre within the Blood Transfusion Centre of Slovenia. This network facilitates the donor and recipient programme, while it also ensures all Slovenian citizens have access and the right to medical treatment with transplantation.

The network operates continuously and expert teams are in a state of readiness 24 hours a day, every day of the year (for more, see: www.slovenija-transplant.si).

Due to the smallness of the Slovenian population, it is not always possible to find a donor who is suitable for a sick person in terms of tissue compatibility and other factors as well as a suitable recipient for all procured organs. For these reasons, Slovenia fulfilled a number of requirements and in January 2000 joined the international organisation Eurotransplant. Eurotransplant is a non-profit organisation and an international transplantation network dedicated to the co-ordination and organisation of organ exchange between transplantation centres in Belgium, the Netherlands, Luxembourg, Germany, Austria, Croatia, Hungary and Slovenia. It operates in an area with about 135 million inhabitants. The organisation is based in Leiden, the Netherlands. The allocation and exchange algorithms are defined precisely. Participation in the network is exceptionally important and ensures better possibilities for the survival of patients with sudden (acute) liver or heart failure when urgent medical treatment with transplantation is required, and it also enables treatment of hypersensitised patients (for more about the organisation, see: www.eurotransplant.org).

This brochure is intended for all interested publics. It presents important events and outstanding achievements in the past year and provides a structured review of selected results of the donor programme after the confirmation of death as well as the recipient programmes in 2017. The events and achievements are presented with the relevant international context and a broader time frame to facilitate understanding of the results and successes in individual years. The brochure high-

lights the quantified aspect of our activity, but behind every 'number' there are concrete personal stories and experience lived by all involved, both experts and patients. Behind every successful transplantation, there are a dedicated and co-ordinated multidisciplinary team of experts, a volunteer donor and a patient.

We would like to express our gratitude to all the visible and not-so-visible people from the professional and lay publics who have participated or are still participating in the donor and recipient programme, thus enabling the successful functioning of transplantation medicine in Slovenia.

Achievements and highlights in 2017

1. Revision of legislation:

The *Rules on Declarations Regarding the Donation of Human Body Parts* (Official Gazette of the RS, no. 29/17) were drafted pursuant to Paragraph 7 of Article 11 of the *Act Regulating the Removal and Transplantation of Human Body Parts for the Purposes of Medical Treatment* (Official Gazette of the RS, no. 56/15 of 29 July 2015 – ZPPDČT) and adopted on 9 June 2017. The Rules substituted the *Instructions Concerning Procedures and Activities in Recruiting Donors of Human Body Parts for Transplantation Purposes* (Official Gazette of the RS, nos. 131/03 and 56/15 – ZPPDČT).

The adoption of the Rules brought about the following key novelties in the procedures related to declarations regarding the donation of organs and tissue after death:

1. Introduction of an additional register of persons AGAINST donation: The existing register of designated donors was supplemented with the option of declaration AGAINST donation.
2. An amendment in the Donor declaration form: A new form was prepared for declaration of whether a person is FOR or AGAINST organ and tissue donation.
3. Envisaged option of declaration by an electronic signature which equals a hand written signature in compliance with the law governing electronic signature and electronic business: To establish this option, we defined the technical solution in 2017 together with our partners and we expect to implement e-Declaration in the first half of 2018.

2. The socially responsible campaign »Don't wait, become a donor«:

Slovenija-transplant and the AV studio agency joined their efforts and carried out a socially responsible campaign in January 2017 entitled »Don't wait, become a donor« the aim of which was to raise public awareness about the importance of donation of organs and tissue for the purpose of medical treatment. The response of the professional community and the general public was excellent which was also reflected in a surge in the number of entries in the register of designated donors of organs and tissue (see Chapter Register of designated after-death donors). The percentage of refused donation after a conversation with the relatives was the lowest in the last six years. The media responded well and spread the key information about organ and tissue donation. The joint campaign has shown that the right approach can make a change in the mindset and acts of the public in a short time to promote solidarity and improve society.

3. A study visit of the Moldovan delegation to Slovenia:

In May 2017 Slovenija-transplant hosted a three-member delegation of experts in the field of transplantation medicine from Moldova who were here on a study visit. The Slovenian experts presented to their guests the basic principles of operation of the donor and transplantation systems, the legislation and Slovenija-transplant's organisational network, the functioning of transplantation coordination, the financial aspects and information support for collecting data in the area of donation and transplantation of organs, tissue and cells, the methods used for educating and raising awareness in the professional and general publics as well as cooperation on the international level. The delegation was accepted by the representatives of the Ministry of Health of the RS, whereas the Moldovan guests also visited the Transplantation Centre of the University Medical Centre Ljubljana.

4. Celebrating the 2017 European Organ Donation Day:

The European Organ Donation Day was celebrated in a somewhat different manner. We used material from the film and novel of the French author Maylis de Kerangal **Mend the living** (fr. Réparer les vivants), translated into Slovenian and published by Sanje Publishing, 2017, as these two communication media offered us more space and different tools for reaching out to the public. We wanted to draw attention to the procedures that usually, because of the details that are not commonly known, remain covered by the stereotypical misunderstanding of this activity. The main event of the celebration of European Organ Donation Day was the premiere of the film in the framework of the 28th Ljubljana Film Festival. The viewing of the film was followed by a round table, where views were shared by the actor and writer Draga Potočnjak, the philosopher Jure Capuder, the anaesthetist and specialist in intensive medicine Danica Avsec, Chief Physician and Director of Slovenija-transplant, as well as Tina Belej, who recently underwent emergency liver transplantation. The conversation was moderated by Tjaša Koprivec. The guests revealed their latest understanding of transplantation activity and all those involved in the processes.

5. Changes in the organisational structure of the donor programme in a donor hospital:

An intense search for solutions for revival of the donor programme in all donor hospitals: We started with the University Medical Centre Maribor where a sharp decline in the identification and realisation of brain-dead donors was recorded a year before (2016). We made a change in the organisation and replaced one hospital transplantation coordinator (HTC) with a team of coordinators. We wanted to disburden the existing HTCs who had mainly worked alone and this was a cause of serious problems during holidays, sick leave and training periods. Moreover, we wanted to substitute some older HTCs with new and younger ones, whereas the older ones were offered the role of mentor and most of them accepted this with satisfaction. A new team was composed of 5 physicians—anaesthetists who can equally complement and substitute one another, whereas the

HTC became the head of the team. A similar structure will be introduced in the remaining donor hospitals in 2018, where we plan to establish teams of one HTC and at least 1 to 2 members. With the new measures the number of donors by the end of 2017 in the UMC Maribor rose by four times compared to 2016.

6. New management structure in Eurotransplant:

A new management structure was set up in Eurotransplant. Besides the Board, a new Management Team was introduced, composed of the representatives of responsible institutions from all Eurotransplant countries. In this way individual countries will have better control over the compliance of the procedures with the national rules and legislation. Communication between a country and the Eurotransplant Board will be simplified and countries will have a better starting position in negotiations for determining the level of costs. The former Board will be renamed into an Expert Council that will deal only with expert medical issues which are often very complicated, especially when it comes to aligning the recommendations or requirements for all member countries with the needs at the national level.

7. Organisation of courses and training:

Structured and continuous education of the professional public is vital to the successful development and functioning of the donor and transplantation activities. Among other activities in 2017, we devoted more attention to training on vigilance which is of key importance for ensuring quality and safety of transplantation activity, and we addressed implementation of the provisions of the Rules. In October, in co-operation with the Spanish organisation DTI which has been implementing the Transplant Procurement Management (TPM) programme for more than two decades, for the sixth consecutive time we organised a three-day Intermediate Training Course in Transplant Coordination. We repeated two training courses Basics of Donor Programme for Healthcare

Professionals, one workshop on communicating bad news and conversation with the relatives as well as two training courses for authorised persons to adopt the definitions regarding after-death organ and tissue donation.

8. Participation in the EUDONORGAN EU project:

Slovenija-transplant participates as a partner in the European EUDONORGAN project – Training and social awareness for increasing organ donation in the European Union and neighbouring countries. Together with the representatives of Croatia it leads the Social Awareness work package. In September a one-week training seminar (Train the trainers) was held in Spain where Danica Avsec, Chief Physician, and Jana Šimenc, PhD, expert associate of Slovenija-transplant, joined the international team of experts and took part in several months of preparations of educational web content and workshop scenarios in the Communication on Organ Donation module. Mrs Šimenc was involved in the implementation of workshops, whereas Mrs Avsec joined the expert management team in the final workshop. The seminar attracted nearly 100 participants from most European countries, including the four-member Slovenian team.

9. Cooperation with other organisations in the area of gathering declarations regarding donation and raising public awareness:

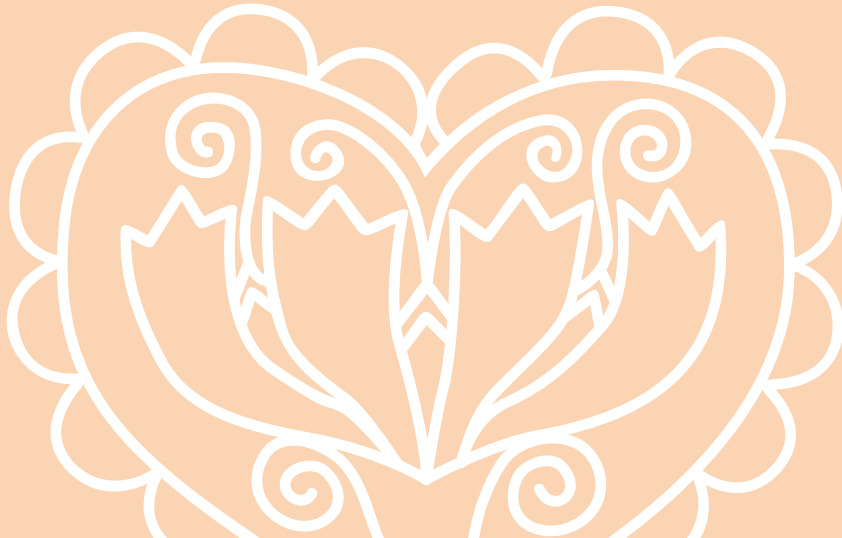
The Blood Transfusion Centre of Slovenia (BTCS): We broadened our cooperation with the BTCS with which we have been cooperating since 2004 when the national register was established; however, until 2017 the only authorised place was at the BTCS headquarters in Ljubljana. In October and November 2017, we conducted two training courses about the basics of the donor programme and declaration regarding donation as well as issued authorisations to 31 new authorised persons. Presently, the declaration regarding donation can also be signed in the Blood Transfusion Centres in Novo mesto, Slovenj Gradec, Trbovlje, Izola, Nova Gorica and Jesenice.

The statements can also be signed in the framework of blood donation campaigns in the field, with the new authorised persons.

Slovenian Red Cross (SRC): Our biggest partner with the broadest network of authorised places is the SRC. The secretaries and other employees in all Red Cross regional associations are authorised to collect declarations and, every year, we carry out training for them on the novelties and new knowledge. In the SRC – Ljubljana Regional Association two clubs operate under the slogan »Blood Donation – an epitome of volunteerism and solidarity«, namely Club 25 with young volunteers and activity coordinators and 100 Drops Club with long-term experienced blood donors who share their experience and knowledge with young and motivate them to donate blood and sign the after-death organ and tissue donation statements. The volunteers–activity coordinators of Club 25 and 100 Drops Club make presentations of blood donation and after-death organ and tissue donation to the students of 3rd and 4th grades of secondary schools in Ljubljana, to teaching staff of primary and secondary schools, to employees in companies and members of the club.

The »Epruvetka« project: We continued participating in the »Epruvetka«(Little Test Tube) project by providing expert support to medical students from Maribor University who, with lectures on blood and organ donation have raised awareness among secondary school students across Slovenia. In March, the experts from Slovenija-transplant gave a lecture on the basics of the donor programme to the staff of the »Epruvetka« project and the students of the Faculty of Medicine, University of Maribor.

Solid organs



NATIONAL WAITING LIST FOR ORGAN TRANSPLANTATION

The waiting list is a list of patients waiting for part of a human body for transplantation for medical purposes. The indications for transplantation are specific for each organ/tissue/cell. All patients in the Republic of Slovenia have the same possibility to be included on the list of recipients and have equal access to the transplantation of human body parts. In Slovenia, about 100 patients are included on the national waiting list for organ transplantation (see the table below for detailed information) and the average waiting period for all organs is relatively short compared to other countries. On average, Slovenian patients wait for a heart, liver or kidney transplant for less than a year.

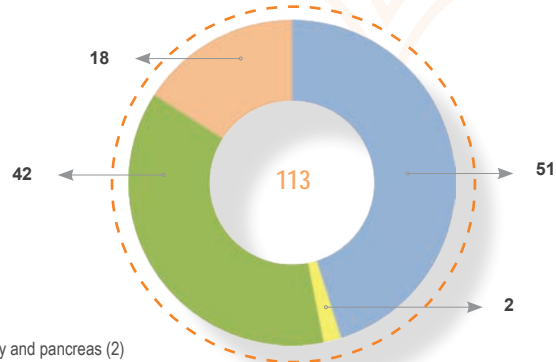
LEGEND

■ Kidney (51)	■ Kidney and pancreas (2)
■ Heart (42)	■ Liver (18)

Status of the national waiting list as at 31.12.2017
(patients with active status)

Kidney	Kidney and pancreas	Kidney and liver	Heart
51	2	0	42
Heart and liver	Heart and kidney	Liver	Pancreas
0	0	18	0
TOTAL			113 patients

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

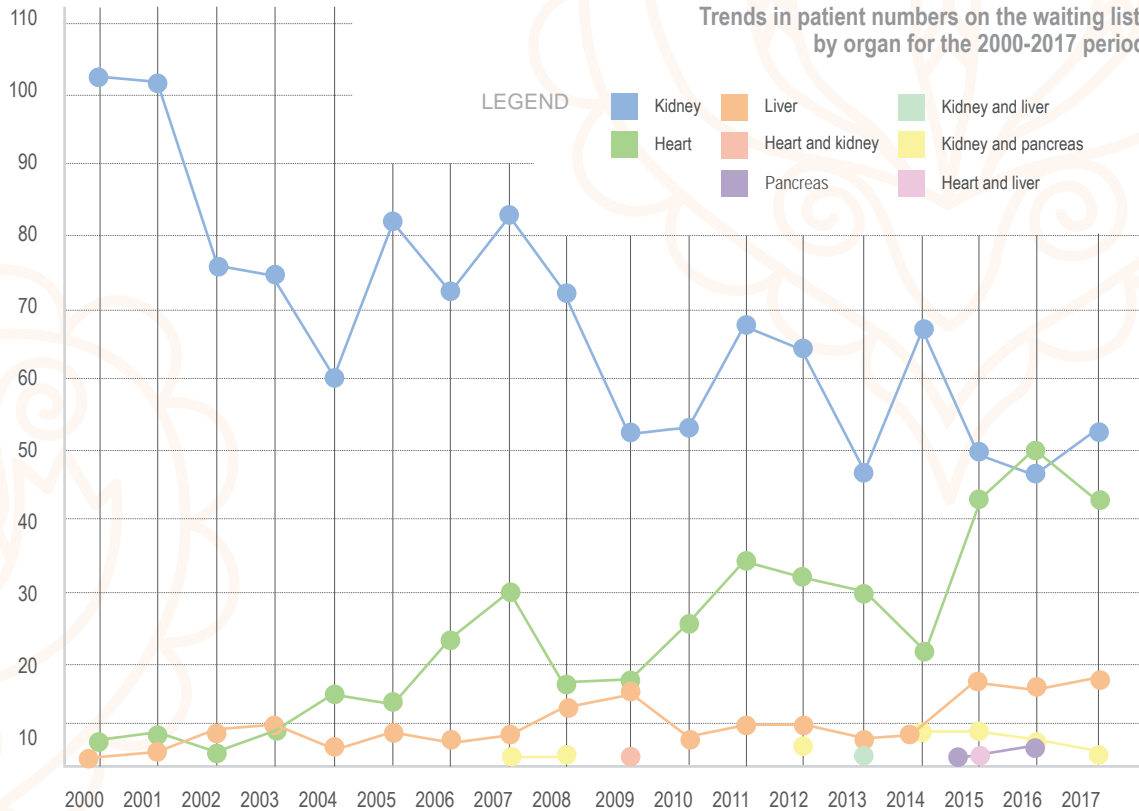


Status of the national waiting list in the 2000 - 2017 period (as at 31.12.)

Year	Kidney	Kidney and pancreas	Kidney and liver	Heart	Heart and liver	Heart and kidney	Liver	Pancreas	TOTAL
2000	102			7			2		111
2001	101			8			4		113
2002	76			2			7		85
2003	75			9			8		92
2004	60			15			4		79
2005	81			14			9		104
2006	72			24			6		102
2007	83	1		30			9		123
2008	71	1		17			13		102
2009	52			18		1	15		86
2010	53			26			8		87
2011	68			34			10		112
2012	65	2		32			10		109
2013	47		1	30			7		85
2014	69	8		21			9		107
2015	50	8		42	1		18	1	120
2016	47	3		50			17	2	119
2017	51	2		42			18		113

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

SOLID ORGANS



NUMBER OF DECEASED DONORS

In 2017 we procured 43 active deceased donors in Slovene donor hospitals. Below are details on the number of utilized deceased donors, which means that at least one organ was transplanted from each donor. Compared to other Eurotransplant members, in 2017 Slovenia ranked in a fourth place in terms of the number of deceased donors per million people.

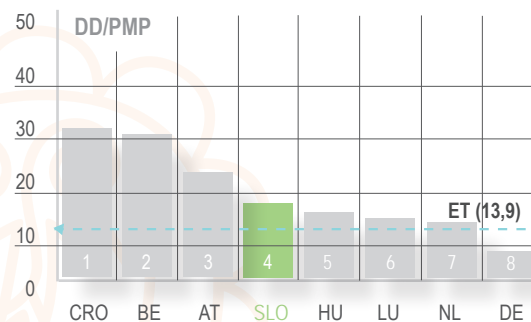
Number of utilized deceased donors (DD) per million people (PMP) in Slovenia in 2017 and a comparison with all Eurotransplant countries

Country	Slovenia (SLO)	Eurotransplant (ET)
Number of DD	39	1.942
DD/PMP	18,9	13,9

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

Number of utilized deceased donors per million people (DD/PMP) and a comparison with other Eurotransplant countries in 2017

ET Country	Number of DD/PMP in 2017
Croatia (CRO)	31,8
Belgium (BE)	30,6
Austria (AT)	23,5
Slovenia (SLO)	18,9
Hungary (HU)	15,4
Luxembourg (LU)	15,2
Netherlands (NL)	14,3
Germany (DE)	9,3



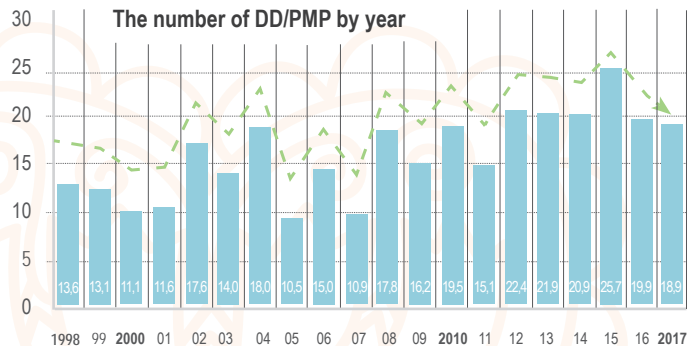
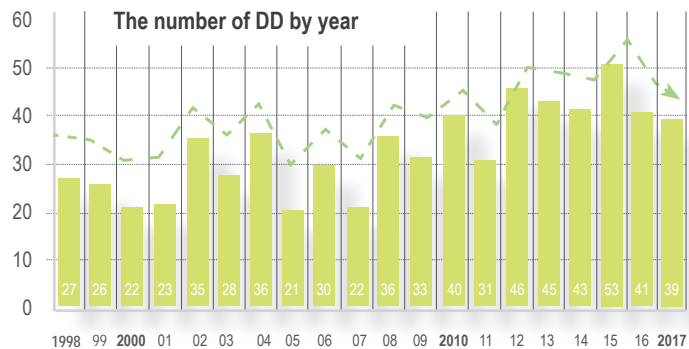
Number of utilized deceased donors (DD) and number of utilized deceased donors per million people (DD/PMP) in Slovenia in the 1998 - 2017 period

Year	Number of DD	Number of DD/PMP
1998	27	13,6
1999	26	13,1
2000	22	11,1
2001	23	11,6
2002	35	17,6
2003	28	14
2004	36	18
2005	21	10,5
2006	30	15
2007	22	10,9
2008	36	17,8

Year	Number of DD	Number of DD/PMP
2009	33	16,2
2010	40	19,5
2011	31	15,1
2012	46	22,4
2013	45	21,9
2014	43	20,9
2015	53	25,7
2016	41	19,9
2017	39	18,9
TOTAL	677	16,7

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 - 2017 period



* The critical Pathway for Organ Donation

<p style="text-align: center;">POSSIBLE DECEASED ORGAN DONOR</p> <p style="text-align: center;">A patient with a devastating brain injury or lesion OR a patient with circulatory failure AND apparently medically suitable for organ donation</p>		
Donation after Circulatory Death (DCD)	Treating physician to Identify/refer a potential donor	Donation after BrainDeath (DBD)
<p>POTENTIAL DCD DONOR</p> <p>a. A person whose circulatory and respiratory functions have ceased and resuscitative measures are not to be attempted or continued. OR b. A person in whom the cessation of circulatory and respiratory functions is anticipated to occur within a time frame that will enable organ recovery.</p>	<p>Reasons why a potential donor does not become a utilized donor</p> <p style="text-align: center;">SYSTEM</p> <ul style="list-style-type: none"> - Failure to identify/refer a potential or eligible donor - Brain death diagnosis not confirmed (e.g. does not fulfil criteria) or completed (e.g. lack of technical resources or clinician to make diagnosis or perform confirmatory tests) - Circulatory death not declared within the appropriate time frame. <ul style="list-style-type: none"> - Logistical problems (e.g. no recovery team) - Lack of appropriate recipient (e.g. child, blood type, serology positive) <p style="text-align: center;">DONOR/ORGAN</p> <ul style="list-style-type: none"> - Medical unsuitability (e.g. serology positive, neoplasia) - Haemodynamic instability/unanticipated cardiac arrest - Anatomical, histological and/or functional abnormalities of organs <ul style="list-style-type: none"> - Organs damaged during recovery - Inadequate perfusion of organs or thrombosis <p style="text-align: center;">PERMISSION</p> <ul style="list-style-type: none"> - Expressed intent of deceased not to be donor - Relative's refusal of permission for organ donation - Refusal by coroner or other judicial officer to allow donation for forensic reasons 	<p>POTENTIAL DBD DONOR</p> <p>A person whose clinical condition is suspected to fulfill brain death criteria.</p>
↓		↓
<p>ELIGIBLE DCD DONOR</p> <p>A medically suitable person who has been declared dead based on the irreversible absence of circulatory and respiratory functions as stipulated by the law of the relevant jurisdiction within a time frame that enables organ recovery.</p>		<p>ELIGIBLE DBD DONOR</p> <p>A medically suitable person who has been declared dead based on neurologic criteria as stipulated by the law of the relevant jurisdiction.</p>
↓		↓
<p>ACTUAL DCD DONOR</p> <p>A consented eligible donor: a. In whom an operative incision was made with the intent of organ recovery for the purpose of transplantation. OR b. From whom at least one organ was recovered for the purpose of transplantation.</p>		<p>ACTUAL DBD DONOR</p> <p>A consented eligible donor: a. In whom an operative incision was made with the intent of organ recovery for the purpose of transplantation. OR b. From whom at least one organ was recovered for the purpose of transplantation.</p>
↓		↓
<p>UTILIZED DCD DONOR</p> <p>An actual donor from whom at least one organ was transplanted.</p>		<p>UTILIZED DBD DONOR</p> <p>An actual donor from whom at least one organ was transplanted.</p>
<p>The »dead donor rule« must be respected. That is, patients may only become donors after death, and the recovery of organs must not cause a donor's death.</p>		

REGISTER OF DESIGNATED AFTER-DEATH DONORS AND PERCENTAGE OF FAMILY REFUSALS

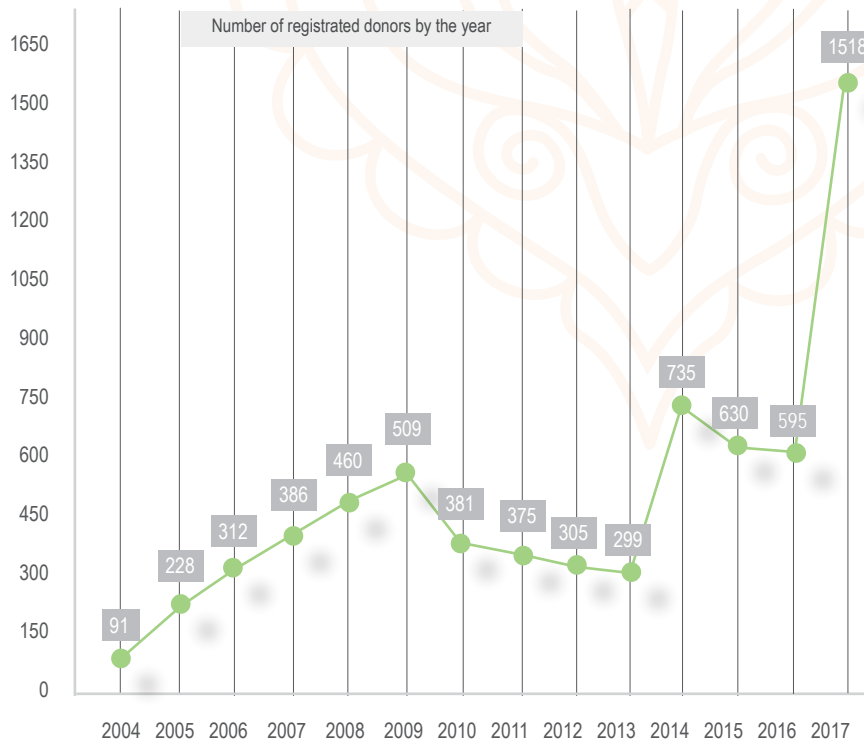
Every Slovenian citizen has the right and possibility during their lifetime to decide to donate their organs and tissues. This decision is formally confirmed by an entry in the national register of designated donors which was set up already in 2004. The donor statement can be signed at many authorised donor registration points in Slovenia (a detailed list is published at www.slovenija-transplant.si). Since June 2017 a declaration against organ donation is also possible.

By June 2018, in accordance with the newly adopted legislative provisions, we plan to introduce electronic registration using a digital certificate. In this way, we are responding to the public's initiatives and following trends in information development. We expect this flexible method of registration will help increase the number of designated donors. As at 31.12.2017, there were 6.854 donors in the register, which is a relatively small number.

Number of designated deceased donors in the register, by year, in the 2004 - 2017 period

Year	No. of registered donors
2004	91
2005	228
2006	312
2007	386
2008	460
2009	509
2010	381
2011	375
2012	305
2013	299
2014	735
2015	630
2016	595
2017	1.518
TOTAL	6.854

Source: archive of Slovenija-transplant



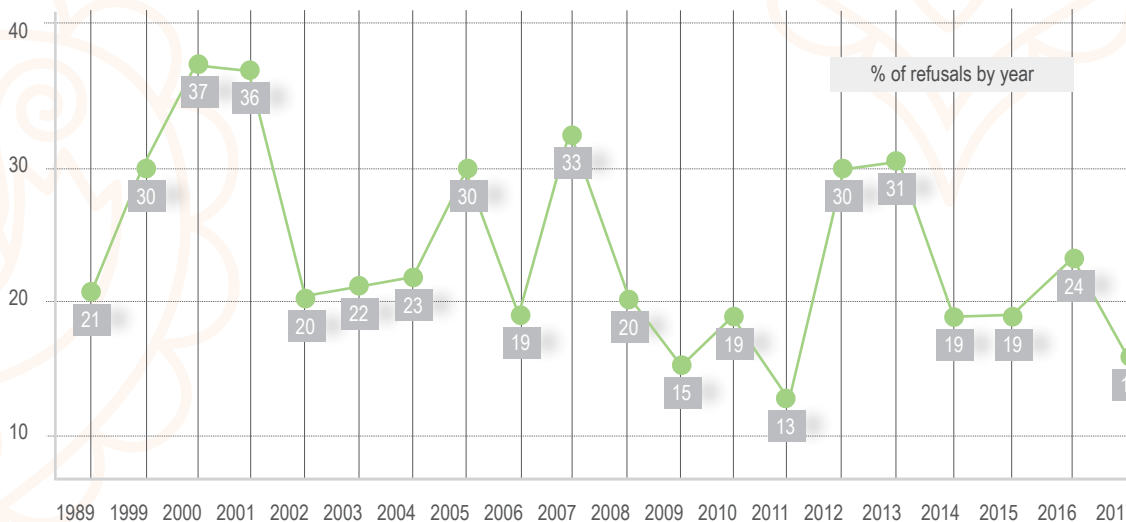
PERCENTAGE OF DONATION REFUSALS

A conversation with close relatives of a potential deceased donor (PDD) about donation is carried out in all cases when the donation of organs for transplantation is feasible. Only after the confirmation of death and the registration of the time of death does the transplantation co-ordinator check the register to see whether the deceased was a designated after-death donor. Despite the known designation, the central transplantation co-ordinator always holds a conversation with the deceased person's close relatives about donation. During this conversation, they try to find out what the deceased person's position was on after-death organ donation. If their intention is unknown, the close relatives take the decision. All procedures are carried out with a high level of sensitivity, understanding of the extremely difficult emotional circumstances and in line with the legislative provisions and the medical doctrine. In Slovenia, compared to other countries, the rate of family refusal is low, although it is even lower in some of the most successful countries. In 2017 the rate of family refusal was the lowest after 2011. Donation was refused by 16% of relatives. The data shows a high level of confidence and support from the general public for the donor and transplantation activity in Slovenia. As the death of a close relative is a difficult experience for anyone, Slovenija-transplant offers the donor's relatives the possibility to receive counselling on grieving from a professionally trained and experienced expert.

Percentage of donation refusals in the 1998 - 2017 period

Source: archive of Slovenija-transplant

Year	%	Year	%	Year	%	Year	%
1998	21	2003	22	2008	20	2013	31
1999	30	2004	23	2009	15	2014	19
2000	37	2005	30	2010	19	2015	19
2001	36	2006	19	2011	13	2016	24
2002	20	2007	33	2012	30	2017	16



OPERATIONS OF THE DONOR CENTRES

Ten donor hospitals or centres are included 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 and Jesenice. We are planning to begin cooperation with GH Brežice in the near future.

The following activities are performed in a donor centre:

- identification of potential deceased donors,
- diagnostics of brain death,
- establishing the suitability of organs and tissues for removal and transplantation,
- informing the deceased person's close relatives about the possibility of organ donation and obtaining their consent,
- preserving the functioning of deceased donors' organs – in intensive care and during organ removal, and
- participating in organ and tissue removal procedures performed by Slovenian and foreign teams of surgeons.

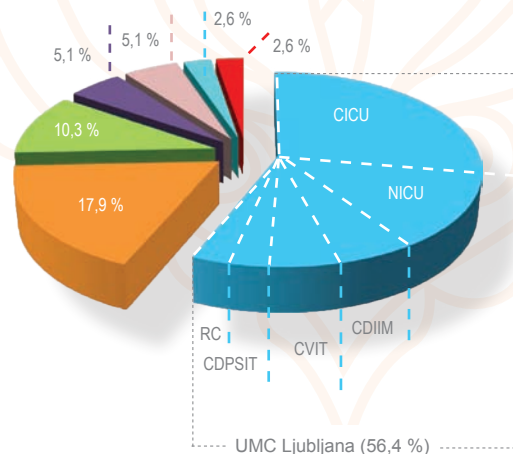
The highest number of donors is provided by the Ljubljana UMC with the greatest number of beds in intensive care units. In 2017 22 deceased donors were procured there. Excellent results were also achieved by the UMC Maribor where in 2017 they procured 7 deceased donors compared to 2 in 2016.

In 2011 we introduced the Quality Assurance Plan into the national donor programme and applied it intensively, thus promoting the operations and co-operation of all participants. The goal is to increase the participation of all donor centres in the activity of procuring organs and tissues, mainly based on an optimal identification of possible deceased organ donors.

Number and share of utilized deceased donors in individual donor centres (DC) in 2017

Donor centre	Number of DD	Share in %
Ljubljana UMC total	22	56,4
of which NICU*	6	
of which CICU	10	
of which CDIIM	2	
of which CVIT	2	
of which CDPSIT	1	
Od tega RC	1	
Maribor UMC	7	17,9
Celje GH	4	10,3
Jesenice GH	2	5,1
Murska Sobota GH	2	5,1
Nova Gorica GH	1	2,6
Ptuj GH	1	2,6
TOTAL	39	100

*NICU – Neurological Intensive Care Unit,
 CICU – Central Intensive Care Unit,
 CDIIM – Clinical Department of Internal Intensive Medicine,
 CVIT – Cardio Vascular Intensive Therapy,
 CDPSIT – Clinical Department of Pediatric Surgical Intensive Therapy
 RC – Respiratory centre

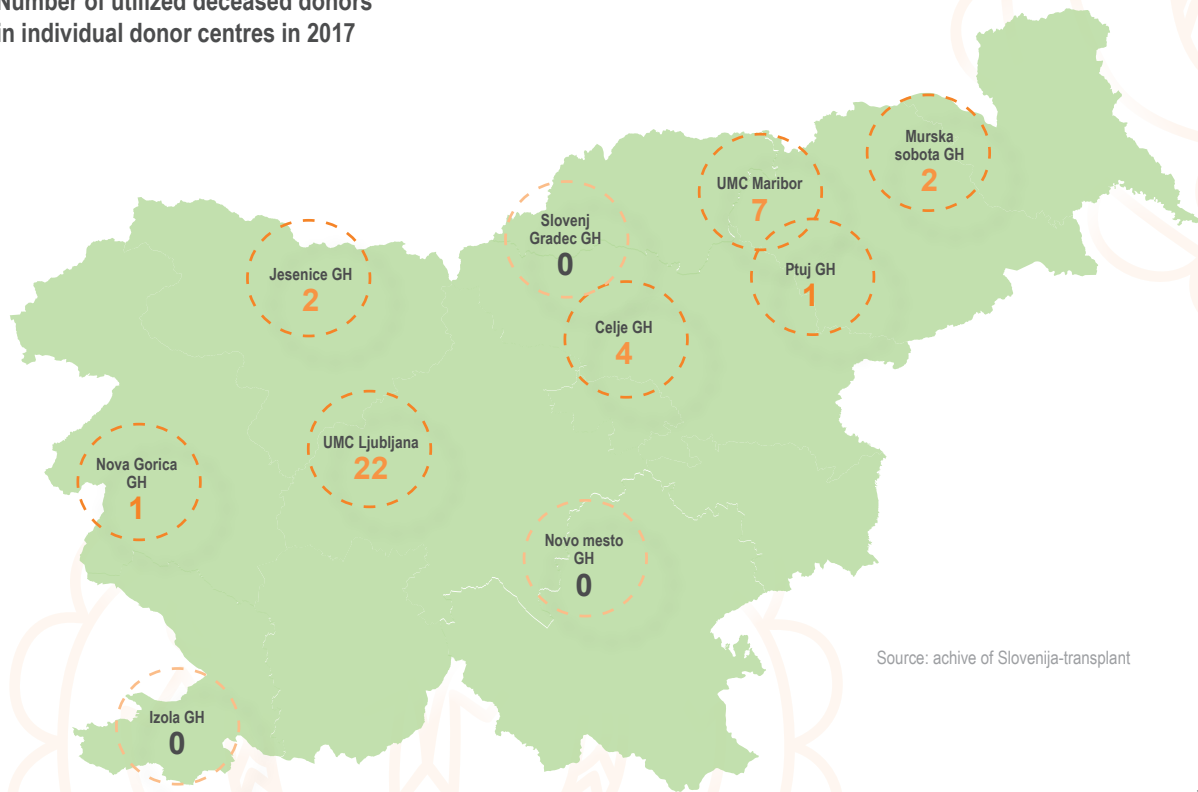


LEGEND

■ UMC Ljubljana	■ Jesenice GH	■ Ptuj GH
■ UMC Maribor	■ Murska Sobota GH	
■ Celje GH	■ Nova gorica GH	

Source: archive of Slovenija-transplant

Number of utilized deceased donors in individual donor centres in 2017



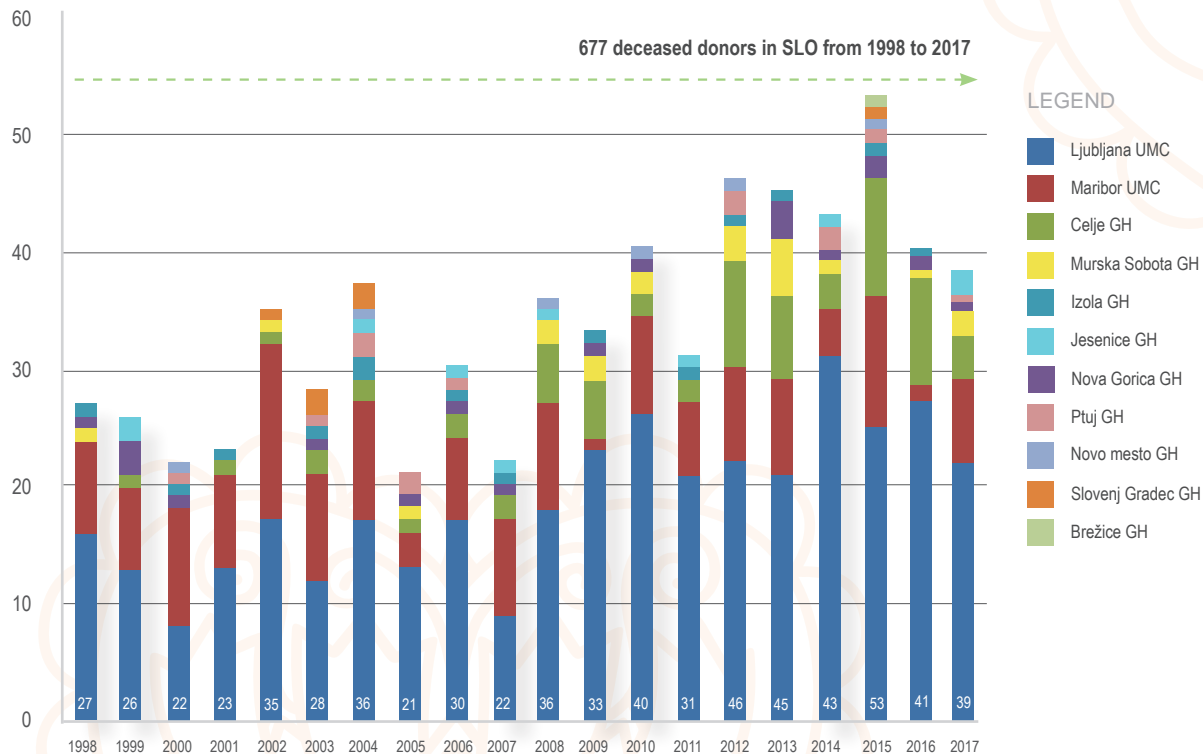
Source: archive of Slovenija-transplant

Number of utilized deceased donors in donor centres in the 1998 - 2017 period

Source: archive of Slovenija-transplant

Year	LJ UMC	MB UMC	CE GH	MS GH	NG GH	Izola GH	Ptuj GH	Jesenice GH	NM GH	SG GH	Brežice GH
1998	16	8		1	1	1					
1999	13	7	1		3			2			
2000	8	10			1	1	1		1		
2001	13	8	1			1					
2002	17	15	1	1						1	
2003	12	9	2		1	1	1			2	
2004	17	10	2			2	2	1	1	1	
2005	13	3	1	1	1		2				
2006	17	7	2		1	1	1	1			
2007	9	8	2		1	1		1			
2008	18	9	5	2				1	1		
2009	23	1	5	2	1	1					
2010	26	8	2	2	1				1		
2011	21	6	2			1		1			
2012	22	8	9	3		1	2		1		
2013	21	8	7	5	3	1					
2014	31	4	3	1	1		2	1			
2015	25	11	10		2	1	1		1	1	1
2016	28	2	7	1	2	1					
2017	22	7	4	2	1		1	2			
TOTAL	372	149	66	21	20	14	13	10	6	5	1

Number of utilized deceased donors in donor centres in the 1998 - 2017 period



List of authorised persons (i.e. hospital transplantation co-ordinators) in charge of development, implementation and functioning of the donor programme in individual donor centres - 2017:

Donor centre	Transplantation co-ordinators
Maribor UMC	Chief Phys. Zoran Zabavnik, MD / Prof. Dr. Andreja Sinkovič, MD
Celje GH	Milena Kotnik, MD Deputy: Barbara Hudournik, MD
Murska Sobota GH	Chief Phys. Daniel Grabar, MD Deputy: Sanja Andrejč, RN
Nova Gorica GH	Konrad Kuštrin, MD Deputy: Edyta Čerkini, MD
Izola GH	Damjan Polh, MD
Ptuj GH	Chief Phys. Majda Šarman, MD
Jesenice GH	Andraž Nastran, MD Deputy: Branka Repe Gruden, MD
Novo mesto GH	Andreja Colner, MD / Matej Godnič, MD
Slovenj Gradec GH	Darja Krevh Golubič, MD / assist. Dr. Jasna Uranjek, MD Deputy: Darja Kasnik, MD
Ljubljana UMC	Chief Phys. Rade Stanič, MD and Central transplant coordinators of Slovenija-transplant

PROCURED SOLID ORGANS FOR THE PURPOSE OF MEDICAL TREATMENT

The number of procured organs depends on the number of deceased donors. In 2017, the number of procured organs is slightly lower than in the year before due to decrease in the number of deceased donors. See the table below for the number of procured organs in 2017 and in comparison to previous years.

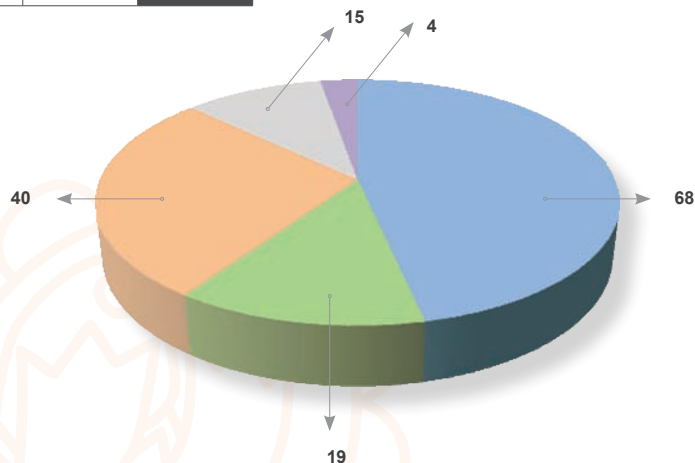
Number of procured organs of Slovenian deceased donors in 2017

Kidney	Heart	Liver	Lung	Pancreas	TOTAL
68	19	40	15	4	146

Source: archive of Slovenija-transplant

LEGEND

- Kidney
- Heart
- Liver
- Lung
- Pancreas



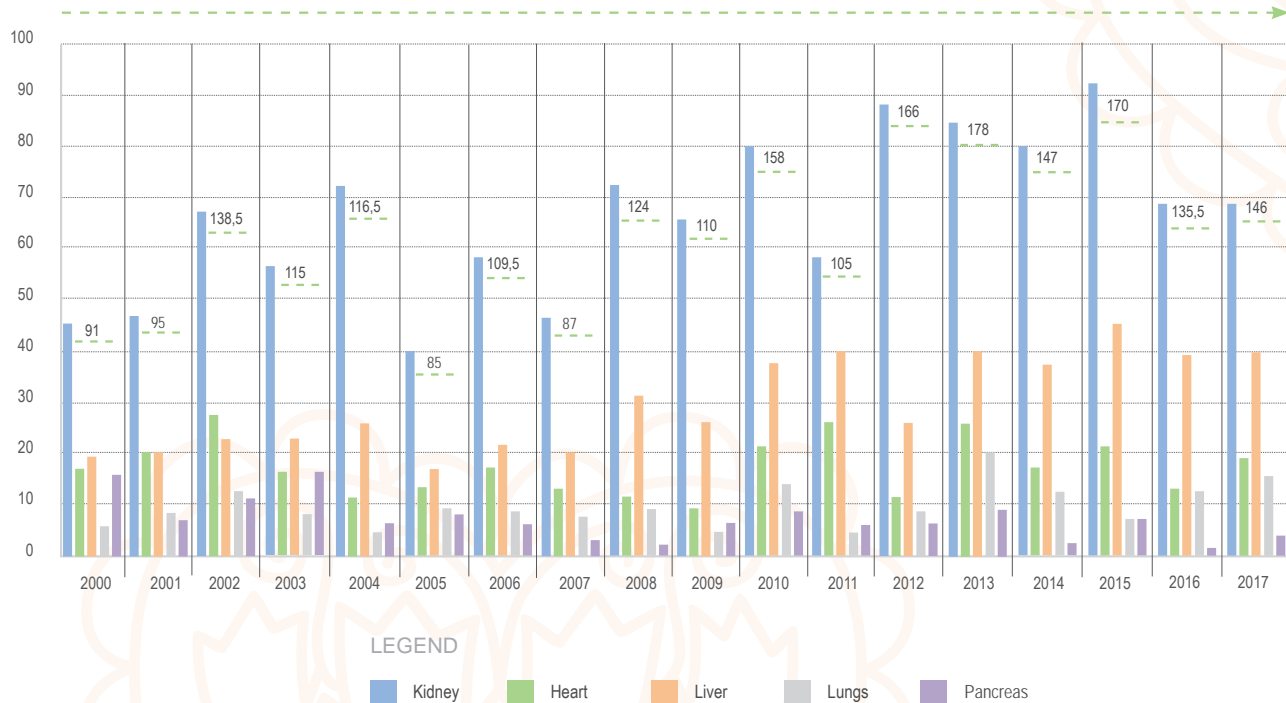
Procured organs of Slovenian deceased donors in the 2000 - 2017 period

Source: archive of Slovenija-transplant

Year	Kidney	Heart	Liver	Lungs (both lobes)	Pancreas	TOTAL
2000	43	14	17	4	13	91
2001	44	19	19	7	6	95
2002	66	28	22	11,5	11	138,5
2003	56	15	21	8	15	115
2004	70	12	25	3,5	6	116,5
2005	39	13	16	9	8	85
2006	59	16	21	7,5	6	109,5
2007	46	12	19	7	3	87
2008	71	11	31	9	2	124
2009	65	9	26	4	6	110
2010	80	20	37	13	8	158
2011	58	14	24	4	5	105
2012	89	25	39	8	5	166
2013	86	26	39	19	8	178
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
TOTAL	1.180	302	519	160	116	2.277

Procured organs of Slovenian deceased donors in the 2000-2017 period

2.277 procured organs of Slovenian deceased donors in the 2000-2017 period



TRANSPLANTED SOLID ORGANS

There is one transplantation centre in Slovenia, the Ljubljana University Medical Centre, where programmes for organ transplantations are carried out. The organ distribution system ensures equal access to medical treatment with organ transplantation for all Slovenian citizens. The tasks of the transplantation centre include:

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

Since 2014, the transplantation centre has been managed by the cardiovascular surgeon Dr. Ivan Knežević, MD. We transplant about 120 organs every year. In 2017 93 organs were transplanted, which is a slightly lower number compared to recent years. The highest number of transplanted organs is that of kidneys and we exceed the average of the Eurotransplant countries in terms of the number of transplants per million people. We are far ahead in terms of the number of transplanted hearts per million people, where we have been one of the wor-

ld leaders in the past few years. For Slovenian recipients, lung transplantations are provided in the Vienna General Hospital, Austria, which has extensive experience in this area. Paediatric transplantations are partially performed in the Ljubljana UMC and partially in the nearby European transplantation centres (kidneys in the University Hospital Graz, Austria, and liver in Bergamo, Italy). The competent departments in the Ljubljana UMC are in charge of the treatment and preparation before organ transplantation as well as medical treatment and monitoring of the patient after the transplantation.

Number of transplanted solid organs from deceased donors in the Ljubljana UMC in 2017 and a comparison with Eurotransplant

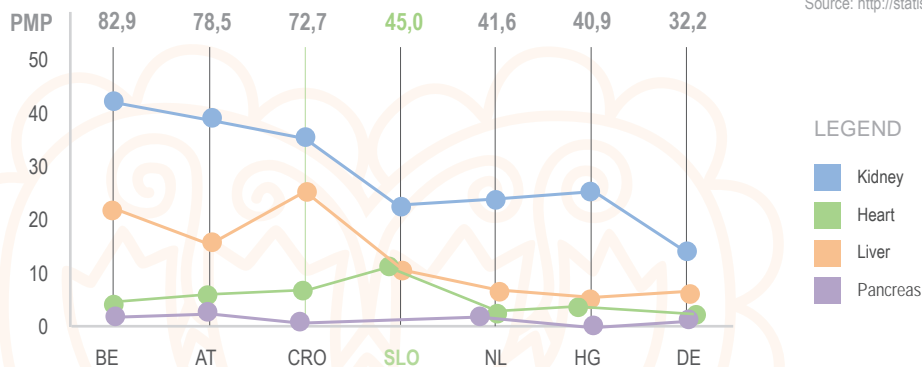
	Kidney DD	Heart	Liver	Pancreas	TOTAL
SLO	46	24	23	0	93
SLO/PMP	22,3	11,6	11,1	0	45,0
ET	2.909	534	1.413	130	4.986
ET/PMP	22,6	4,0	11,4	1,2	39,2

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

Number of transplanted solid organs from deceased donors in the Ljubljana UMC in 2017 and a comparison with Eurotransplant

ET country	Kidney	Liver	Heart	Pancreas	Number of transplantations/ PMP in 2017
Belgium	42,7	23,7	7,0	1,9	82,9
Austria	40,9	18,0	7,3	2,3	78,5
Croatia	37,1	28,4	7,9	1,2	72,7
Slovenia	22,3	11,3	11,6	0	45,0
Netherlands	25,1	9,4	2,2	1,9	41,6
Hungary	26,2	7,6	5,3	0,6	40,9
Germany	16,5	9,2	3,1	0,9	32,2

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



Number of transplanted solid organs of deceased donors in Slovenia in the 1970 - 2017 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

Year	Kidney	Heart	Liver	Lungs	Pancreas	TOTAL
2001	47	4	9	1		61
2002	55	3	11	1		70
2003	43	3	9	2**		57
2004	55	3	15			73
2005	28	5	13	2		48
2006	48	8*	8	2		65
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		119
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		100
TOTAL	1.123	298	335	67	19	1.842

Lung transplantations to Slovenian patients with one exception were performed in Vienna

* One heart of Slovene donor was transplanted to Slovene patient in Graz

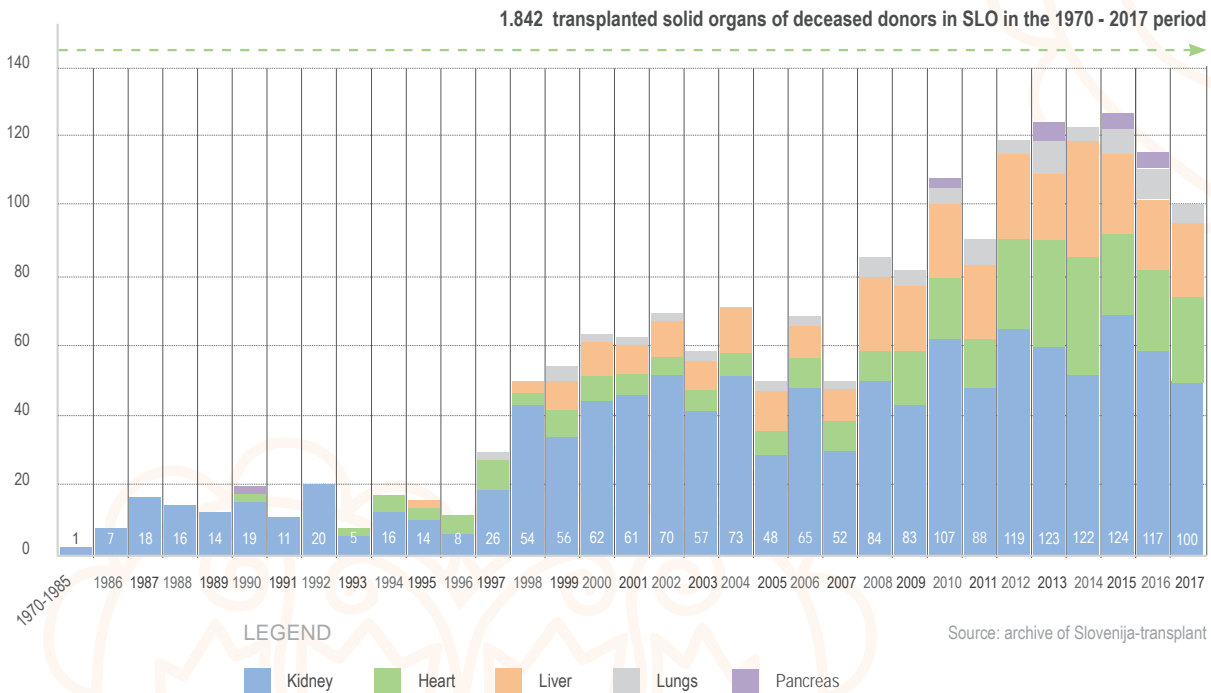
** One lung transplantation was performed in the Ljubljana UMC

*** One heart was transplanted, together with lungs, into a Slovenian patient in Vienna

**** In 2016 and 2017 two kidneys from the living donor have been transplanted. The total number of transplanted kidneys in 2016 is therefore 46 and in 2017 48.

Source: archive of Slovenija-transplant

Number of transplanted solid organs of deceased donors in Slovenia in the 1970 - 2017 period



THE SUCCESSFULNESS OF SLOVENIAN ORGAN TRANSPLANT PROGRAMMES

Patient survival after heart transplantation

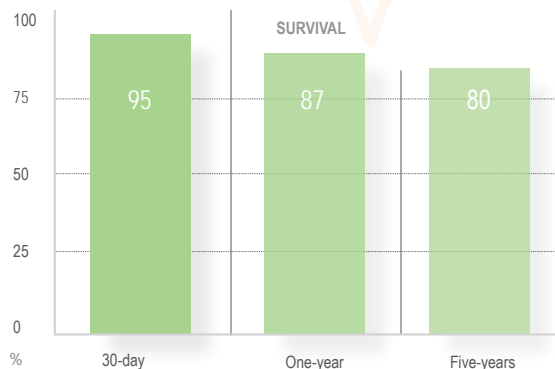
At the end of 2017, there were 203 patients in Slovenia with heart transplantation. 298 heart transplants were performed in the period from 1990 to 2017. The survival rates are comparable to those from the international reference register kept by the International Society for Heart & Lung Transplantation (ISHLT).

The most frequent reasons for heart transplantation in 2017 were ischemic heart disease (41 %) and dilated cardiomyopathy (30 %), while other reasons include valvular heart disease (8 %), non-compaction cardiomyopathy (8 %), arrhythmogenic right ventricular dysplasia (8 %) and retransplantation (5 %).

Survival of adult cardiac transplant recipients in % (1990–2017, n = 298)

30-day survival	One-year survival	Five-year survival
95 %	87 %	80 %

Source: Report on implementation of the programme for advanced heart failure and cardiac transplantation for 2017
(Cardiology Department, Ljubljana University Medical Centre)



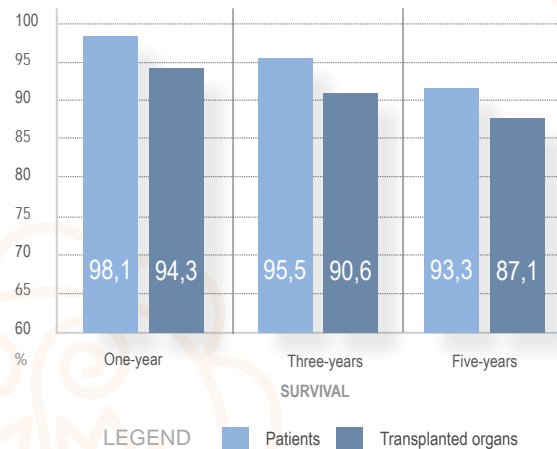
Patient survival after kidney transplantation

In the period after Slovenija-transplant joined Eurotransplant (1 January 2000–31 December 2017), 889 kidneys of living and deceased donors were transplanted. Some recipients were transplanted kidney in combination with other organs (pancreas, liver, heart). In the 2013–2016 period, the median time until transplantation was 300 days. In the first post-transplantation year clinical, biopsy-proven acute rejection of transplant was reported in 13.7 % of all patients.

Survival of renal transplant recipients and transplanted organs in % (2000–2017, n = 889)

One-year survival	Three-year survival	Five-year survival
Patients		
98,1 %	95,5 %	93,3 %
Transplanted organs		
94,3 %	90,6 %	87,1 %

Source: quality indicators of the Kidney Transplantation Centre
(Department of Nephrology, University Medical Centre Ljubljana)



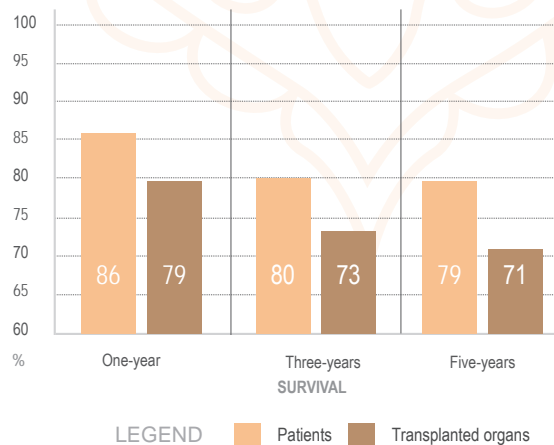
Patient survival after liver transplantation

In the 1988–2017 period, the University Medical Centre Ljubljana carried out 318 liver transplantations. Of all patients with liver transplantation, 62.6 % needed the procedure due to liver cirrhosis, 10.5 % acute liver failure, 9.4 % liver cancer, 9.1 % cholestatic/congenital diseases, and 2.4 % because of metabolic liver disease. Other reasons for transplantation include benign liver tumour or polycystic liver disease and Budd-Chiari syndrome.

Survival of liver transplant recipients and transplanted organs in % (1988–June 2017, n = 288 (patients) and n = 318 (transplants))

One-year survival	Three-year survival	Five-year survival
Patients		
86 %	80 %	79 %
Transplanted organs		
79 %	73 %	71 %

Source: ELTR (European Liver Transplant Registry, SLLUBL: Specific Analyses June 2017)



Patient survival after pancreas transplantation

In the period from February 2009 to 28 February 2018, 18 pancreas transplants were carried out, all concurrently with kidney. After one year, 14 pancreases functioned, whereas 4 were removed in the early post-transplant period. One-year survival of pancreas transplantation was 78 %.

After one year, all pancreas-transplant recipients were alive, leading to a one-year survival rate of 100 %.

All patients whose pancreas functioned after one had a functioning pancreas also on 28 February 2018, which means they are insulin-independent. One patient died 6 years after the transplantation due to a cardiogenic shock; his pancreas and kidney were still functioning.

Source: Associate Professor Dr. Damjan Kovač, MD
(Department of Nephrology, UMC Ljubljana)

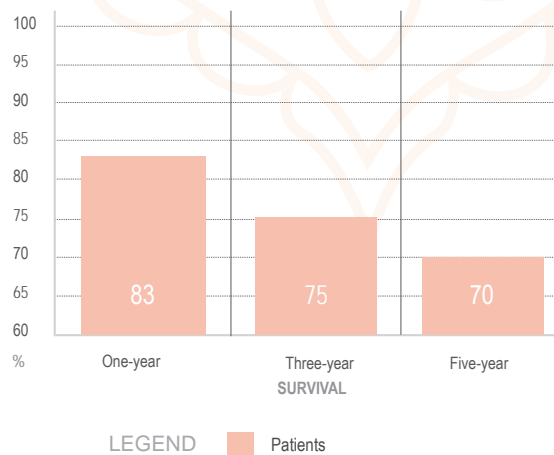
Patient survival after lung transplantation

In the period from 1997 to 2017 67 lungs were transplanted to Slovene patients. 8 lung transplantations were performed in 2017.

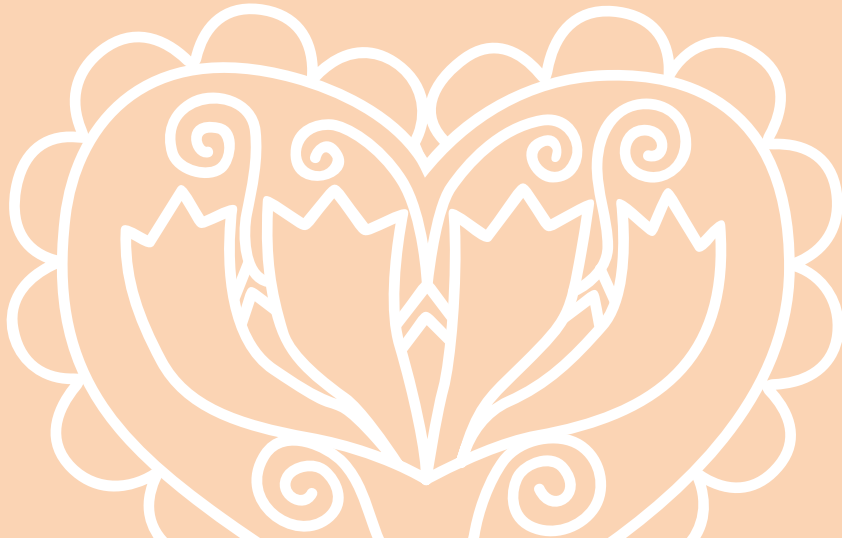
For Slovenian recipients, lung transplantations are provided in the Vienna General Hospital, Austria, which has extensive experience in this area. Only one lung transplantation was performed in UMC Ljubljana in 2003.

Survival of lung transplant recipients in % (1997-2017, n=67)

One-year survival	Three-year survival	Five-year survival
Patients		
83 %	75 %	70 %



Tissues and cells



TRANSPLANTATION OF HAEMATOPOIETIC STEM CELLS

The transplantation of haematopoietic stem cells (HSCs) is the predominant type of cell treatment as more than 70 malignant and non-malignant diseases can be treated in this way, whereas for specific haematological diseases this is the main and the only therapeutic possibility for a patient to recover. The modern method of medical treatment using HSCs is more than 90 % successful in optimal conditions (<http://www.ztm.si>). For such success, good donor-recipient immunological (HLA) matching is required. The HLA system differs in every person and it is a very demanding task to find a suitable match. In the international community, doctors decided to establish large registers of typified volunteer donors of HSCs to increase the possibility of HLA matching and thus also the outcomes of transplantations. In Slovenia a register of non-related donors, Slovenia Donor, was established in 1991 and the next year it became a full member of the world register Bone Marrow Donors Worldwide (BMDW). All data are appropriately protected against unauthorised use.

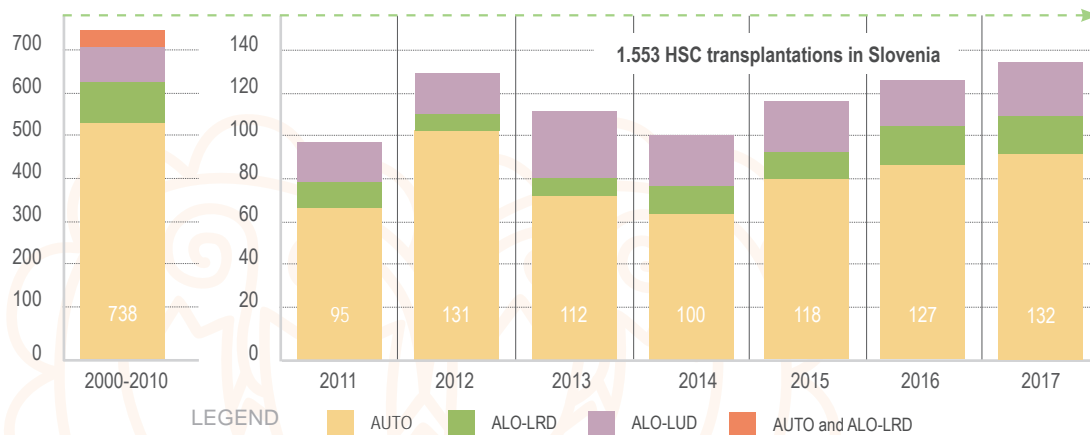
There are several types of donor-recipient matching. If it is possible to use a patient's own HSCs, this is called an autologous donation. If this is impossible, we look for another donor who may or may not be related to the recipient. Donation by another donor is called allogeneic and a donor is sought in Slovenia and abroad.

HSC transplantations in Slovenia in the 2000 - 2017 period

Transplantation type	2000–2010	2011	2012	2013	2014	2015	2016	2017
AUTO	531	68	101	74	63	84	86	92
ALO-LRD	102	9	8	7	11	10	15	12
ALO-LUD	84	18	22	31	26	24	26	28
AUTO and ALO-LRD	21							
TOTAL	738	95	131	112	100	118	127	132

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

Source: archive of Slovenija-transplant

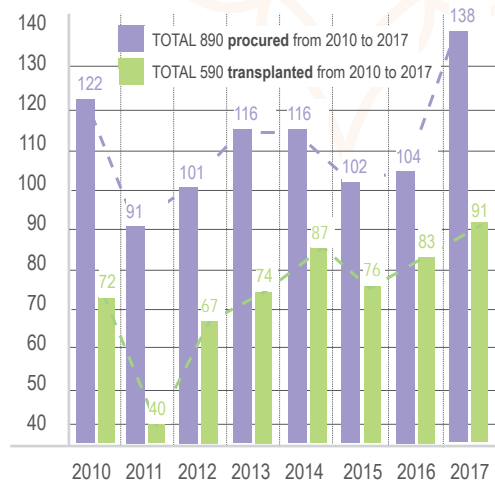


CORNEA PROCUREMENT AND TRANSPLANTATION PROGRAMME

Cornea transplantation is one of the most frequent and most successful tissue transplantations in the world. This medical treatment is often the only method that can improve sight after a disease or injury. Slovenia has a national network of donor centres where the corneas of deceased donors are removed after a cardiac arrest or proven brain death. The removal of corneas is possible based on a consent given by the deceased person before their death or if their close relatives do not object. The final decision on the suitability of corneas for transplantation is always taken by the recipient's responsible doctor. Corneas are transplanted in two transplantation centres: the Department of Ophthalmology in the Ljubljana UMC and the Department of Ophthalmology in the Maribor UMC.

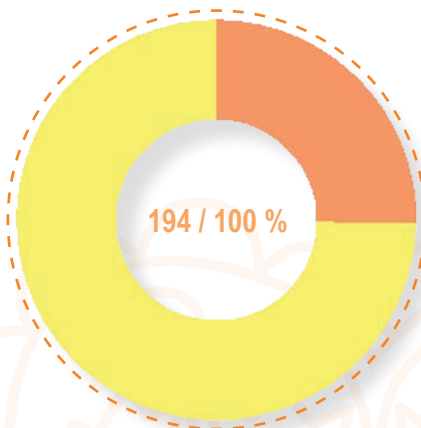
Procured and transplanted corneas (at the Department of Ophthalmology in the Ljubljana UMC) in the 2010 - 2017 period

Year	No. of procured corneas	No. of transplanted corneas
2010	122	72
2011	91	40
2012	101	67
2013	116	74
2014	116	87
2015	102	76
2016	104	83
2017	138	91



Waiting list of patients waiting for cornea transplantation at the Department of Ophthalmology in the Ljubljana UMC (as at 9 March 2018)

Diagnosis	Number of patients
Keratoconus	49
Other diagnoses	145
TOTAL	194



LEGEND

- Diagnosis of keratoconus: **49 patients (25 %)**
- Other diagnoses: **145 patients (75 %)**
(injuries, degeneration, retransplantation, corneal macula, Fuchs dystrophy, endothelial dystrophy, cornea guttata, aphakia and pseudophakia, bullous keratopathy, infections, other)

Source: archive of Slovenija-transplant

OTHER TISSUES AND CELLS

Twenty-five institutions are included in tissue and cell procurement at the national level. Slovenija-transplant and the Agency of the Republic of Slovenia for Medicines and Medical Devices ensure the functioning of the system and promptly detect and discuss any deviations that could affect the quality and safety of tissues and cells of donors, recipients as well as the staff involved in the processes.

The amended Rules on the traceability of human tissues and cells entered into force in 2015, abolishing the use of classical forms for prompt reporting and introducing modern online electronic reporting. Such reporting is faster and simpler for users. Moreover, it facilitates data accessibility according to the principle »the entered data are always accessible« so that programme users may use them in their professional and research work. Data can also be entered subsequently. At the end of 2015, this method had already been adopted by several institutions for tissues and cells.

Number of procured tissues and cells in the 2009 - 2017 period

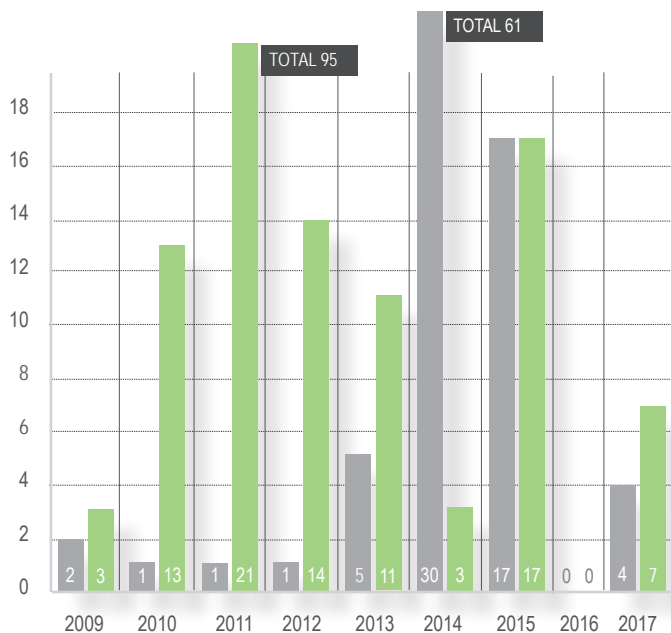
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017
Skin	28	45	22	36	85	89	52	57	32
Bones	38	123	108	67	93	82	147	74	80
Soft bone grafts	22	39	/	3	11	3	9	/	12
Cartilage	37	21	4	12	11	11	12	/	/
Reproductive cells	15.854	43.472	8.640	27.479	41.929	37.542	39.769	26.191	36.338

Number of tissues and cells used in the 2009 - 2017 period

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017
Skin	36	10	14	34	67	23	31	28	/
Bones	23	47	57	97	59	62	92	82	72
Soft bone grafts	12	/	2	2	3	4	3	5	2
Cartilage	15	/	3	7	4	9	5	1	/
Reproductive cells	1.450	2.018	29.651	23.330	23.506	27.271	31.127	26.620	31.817

Source: archive of Slovenija-transplant

Number of adverse events and reactions in the 2009 - 2017 period



LEGENDA

■ Adverse reactions ■ Adverse events

Source: archive of Slovenija-transplant

LITERATURE

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slovenija



transplant

**Zavod RS za presaditve organov in tkiv,
Slovenija-transplant/
*Institute for Transplantation of Organs and Tissues
of the Republic of Slovenia,*
Zaloška 7, 1000 Ljubljana, Slovenija**

Spletna stran/*web page*: www.slovenija-transplant.si

e-pošta/*e-mail*: info@slovenija-transplant.si

Telefon: + 386 1 300 68 60

Faks: + 386 1 300 68 66

Direktorica/*Director*:

Prim. Danica Avsec, dr. med., svetnica

GSM: + 386 41 760 917

E-pošta/*E-mail*: danica.avsec@slovenija-transplant.si