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STUDY

Swiss Transplant Cohort Study Report (January 2008 - 31 December 2025)

August 2026

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Disclaimer

The STCS Annual Report covers all solid organ transplantation (SOT) activities on the Swiss national level since January 2008. The report is comprehensive and contains all combinations of simultaneous solid organ transplantations, consecutive transplantations, centre-specific activities and key outcomes of all transplantation programs including limited reporting of infectious disease and cancer occurrence. To serve the aim of comprehensive transplant outcome reporting, the report is based on unselected patient populations of the different transplant programs and transplant centres. **However, it is important to note that the report is not designed for and does not serve the purpose of centre-specific outcomes comparison.**

Swiss Transplant Cohort Study (STCS)
Association

1 List of Abbreviations

STCS	Swiss Transplant Cohort Study
CHUV	Centre Hospitalier Universitaire Vaudois Lausanne
CI	confidence interval
CRC	colorectal cancer
CTU	cerebral tumor
CumInc	cumulative incidence
DGF	delayed graft function
FUP	follow-up
GF	graft failure
HCC	hepatocellular carcinoma
HOCH KSSG	Kantonsspital St. Gallen
HSCT	haematopoietic stem cell transplantation
HUG	Hôpitaux Universitaires de Genève
ID	infectious disease
IQR	interquartile range
Insel	Inselspital Bern
KPD	kidney paired donation (cross-over living donation)
DBD	donation after brain death
DCD	donation after circulatory death
PTLD	Post-Transplant Lymphoproliferative Disorder
SBCC	skin, basal cell carcinoma
SOT	solid organ transplantation
SSCC	skin, squamous cell carcinoma
HOCH KSSG	Kantonsspital St. Gallen
USZ	Universitätsspital Zürich
USB	Universitätsspital Basel
TU	tumor
Tx	transplantation

List of Figures

1	Cumulative patient enrolment	7
2	Cumulative patient enrolment by type of Tx	8
3	Cumulative patient enrolment by centre	8
4	Patients current consent status	11
5	Patients current consent status by centre	11
6	Patient overall survival, full STCS population	14
7	Overall survival for common Tx types	17
8	Graft failure free survival, main SOT programs	17
9	Cumulative incidence of graft failure	18
10	Number of single kidney Tx by type of donation	19
11	Distribution of type of donation by centre, single kidney Tx	19
12	Cumulative number of patients enrolled from KPD program by centre . .	21
13	Cumulative number of renal SOT recipients from DCD donation by centre	21
14	Patient survival kidney Tx program by type of donation	22
15	Graft-failure free survival kidney Tx program, by type of donation	22
16	Cumulative incidence of graft failure for kidney Tx by donor type	23
17	Patient survival kidney Tx program by calendar period	23
18	Graft-failure free survival kidney Tx program by calendar period	24
19	Number of single liver Tx by type of donation	25
20	Single liver Tx: Distribution according to type of donation and centre . .	25
21	Cumulative number of patients with liver Tx from DCD donation by centre	26
22	Patient survival liver Tx program by type of donation	27
23	Re-transplantation free survival liver Tx program by type of donation . .	27
24	Patient survival liver Tx program by calendar period	28
25	Re-transplantation free survival liver Tx program by calendar period . .	28
26	Patient survival lung Tx program by type of donation	29
27	Re-transplantation free survival lung Tx program by type of donation . .	29
28	Patient survival lung Tx program by calendar period	30
29	Re-transplantation free survival lung Tx program by calendar period . .	30
30	Cumulative number of patients with heart Tx from DCD donation by centre	31
31	Patient survival heart Tx program by type of donation	31
32	Patient survival heart Tx program by calendar period	32
33	Re-transplantation free survival heart Tx program by calendar period . .	32
34	Patient survival kidney Tx program by centre	33
35	Graft failure free survival kidney Tx program by centre	33
36	Patient survival by Tx program and centre	34
37	Re-transplantation free survival by centre	35

List of Tables

1	Number of patients enrolled	3
2	Number of patients enrolled by type of Tx at enrolment	3
3	Number of Tx and type of Tx	4
4	Number of transplanted organs	4
5	Patient characteristics for major Tx types	5
6	Donor characteristics by type of donation	6
7	Number of enrolled patients by year and centre	9
8	Number of Tx by year and centre	10
9	Patients' current consent against consent status at first transplantation .	12
10	Follow-up information of patients	13
11	Number of patients who dropped out	13
12	Overall mortality	14
13	Summary for graft failures	15
14	Graft failures in simultaneous Tx	15
15	Graft failure and related patients' death	16
16	Kidney Tx recipient characteristics by type of donation	20
17	Liver Tx recipient characteristics by type of donation	26
18	Overview of patients with incident cancer	36
19	Patients with incident cancer by Tx type	36
20	Overview of incident cancer occurrence	37
21	Overview of patients with incident skin cancer	38
22	Patients with incident skin cancer by Tx type	38
23	Overview of incident skin cancer occurrence	38
24	Number of pediatric patients (under 18) by first Tx type	39
25	Number of Tx in pediatric patients by transplantation type and centre . .	39
26	Overall mortality by Tx type	40
27	Overall mortality by rare Tx scenarios	42
28	Overall mortality in (single) kidney recipients by donor type	43
29	Graft failure by organ	44
30	Graft failure of kidneys (in first STCS single Tx) by donor type	46

Contents

1	List of Abbreviations	2
2	Comments from the centres	1
3	Patients, transplantations and transplanted organs	2
3.1	Definitions applied	2
3.2	Overview and baseline demographic data	3
3.3	STCS patient enrolment by calendar time	7
3.4	Transplantation activities by centre and year	9
4	Consent status	11
5	Patient and transplant outcome reporting	13
5.1	Death and dropout	13
5.2	Graft failure and primary non-function	15
5.3	Outcome overview all transplant programs	17
5.4	Kidney transplant program	19
5.5	Liver transplant program	25
5.6	Lung transplant program	29
5.7	Heart transplant program	31
5.8	Outcome by transplant program and centre	33
6	Cancer	36
6.1	Cancer other than skin	36
6.2	Skin cancer	38
7	Specific Populations: Pediatric patients	39
A	Overall mortality by transplantation type	40
B	Overall mortality in patients with rare Tx scenarios	42
C	Overall mortality in first kidney transplantation	43
D	Graft failure by organ, centre and donortype	44
E	Technical summary	47

2 Comments from the centres

Centre Hospitalier Universitaire Vaudois Lausanne

Approves open publication.

Hôpitaux Universitaires de Genève

Approves open publication.

Inselspital Bern

Approves open publication.

Kantonsspital St. Gallen

Approves open publication.

Universitätsspital Basel

Approves open publication.

Universitätsspital Zürich

Approves open publication.

3 Patients, transplantations and transplanted organs

3.1 Definitions applied

- The term "enrollment" refers to the inclusion of patients in the Swiss Transplant Cohort Study (STCS) from January 1, 2008, to December 31, 2025. Data is collected from these patients from the date of transplantation until the end of follow-up, which is 11 May 2026. The aforementioned data is included in the report.
- First transplantation:
 - Patients with a first solid organ transplantation in their medical history at the time of STCS enrolment
- Re-transplantation:
 - Patients with a repetition of the same type of transplantation (Re-Tx)
 - Example: Re-Tx of a kidney allograft after failure of a previous kidney graft
- Subsequent transplantation:
 - Patients with a subsequent transplantation that differs from the preceding transplantation type
 - Example: Transplantation of a pancreas following a single kidney transplantation
- Simultaneous transplantation:
 - Simultaneous (eg double or triple) transplantation refers to a multiple organ transplantation where all the organs originate from the same donor (e.g. kidney-pancreas).
 - Simultaneous transplantation can be categorized as first, re- or second transplantation.
- Every transplant procedure can consist of a single or simultaneous transplantation.
- Knowledge on previous solid organ transplantations from the pre-STCS era (before January 2008) is considered. Patients may thus be enrolled within the STCS as a re- or a second transplantation.
- Sequences of previous islets transplantations have been counted as one prior transplantation.

3.2 Overview and baseline demographic data

The following tables list the number of patients enrolled in the STCS, the number of transplantations performed, and organs transplanted. Table 1 and 2 show patients according to their first STCS transplantation.

Table 1: Number of patients enrolled

	Patients	(%)
Total number	9169	100.0
Single Tx at enrolment	8853	96.6
Double Tx at enrolment	313	3.4
Triple Tx at enrolment	3	0.0
1st Tx at enrolment	8332	90.9
Re-Tx at enrolment	677	7.4
2nd Tx at enrolment	160	1.7
HSCT prior to enrolment	46	0.5

Table 2: Number of patients enrolled by type of Tx at enrolment

	Total	First Tx	(%)	Re Tx	(%)	Subsequent Tx	(%)
Total	9169	8332	90.9	677	7.4	160	1.7
Kidney	5271	4591	87.1	594	11.3	86	1.6
Liver	1993	1934	97.0	47	2.4	12	0.6
Lung	840	811	96.5	15	1.8	14	1.7
Heart	691	680	98.4	7	1.0	4	0.6
Islets	41	12	29.3	11	26.8	18	43.9
Pancreas	15	9	60.0	0	0.0	6	40.0
Small bowel	2	1	50.0	1	50.0	0	0.0
Kidney - Pancreas	182	175	96.2	1	0.5	6	3.3
Kidney - Liver	74	66	89.2	0	0.0	8	10.8
Kidney - Islets	29	28	96.6	0	0.0	1	3.4
Kidney - Heart	16	12	75.0	1	6.2	3	18.8
Kidney - Lung	2	1	50.0	0	0.0	1	50.0
Liver - Lung	4	4	100.0	0	0.0	0	0.0
Liver - Pancreas	1	1	100.0	0	0.0	0	0.0
Heart - Lung	1	1	100.0	0	0.0	0	0.0
Islets - Liver	1	1	100.0	0	0.0	0	0.0
Pancreas - Small bowel	3	3	100.0	0	0.0	0	0.0
Kidney - Islets - Liver	1	0	0.0	0	0.0	1	100.0
Liver - Pancreas - Small bowel	1	1	100.0	0	0.0	0	0.0
Islets - Liver - Lung	1	1	100.0	0	0.0	0	0.0

In contrast to Table 1 and 2, Table 3 and 4 list all transplantations performed and the number of transplanted organs.

Table 3: Number of Tx and type of Tx

	Total	First Tx	(%)	Re Tx	(%)	Subsequent Tx	(%)
Total	9775	8332	85.2	1155	11.8	288	2.9
Kidney	5512	4591	83.3	774	14.0	147	2.7
Liver	2191	1934	88.3	233	10.6	24	1.1
Lung	877	811	92.5	49	5.6	17	1.9
Heart	698	680	97.4	14	2.0	4	0.6
Islets	137	12	8.8	78	56.9	47	34.3
Pancreas	28	9	32.1	1	3.6	18	64.3
Small bowel	2	1	50.0	1	50.0	0	0.0
Kidney - Pancreas	186	175	94.1	3	1.6	8	4.3
Kidney - Liver	79	66	83.5	0	0.0	13	16.5
Kidney - Islets	31	28	90.3	1	3.2	2	6.5
Kidney - Heart	16	12	75.0	1	6.2	3	18.8
Kidney - Lung	3	1	33.3	0	0.0	2	66.7
Liver - Lung	4	4	100.0	0	0.0	0	0.0
Liver - Pancreas	1	1	100.0	0	0.0	0	0.0
Heart - Lung	1	1	100.0	0	0.0	0	0.0
Islets - Liver	2	1	50.0	0	0.0	1	50.0
Pancreas - Small bowel	3	3	100.0	0	0.0	0	0.0
Kidney - Islets - Liver	1	0	0.0	0	0.0	1	100.0
Liver - Pancreas - Small bowel	2	1	50.0	0	0.0	1	50.0
Islets - Liver - Lung	1	1	100.0	0	0.0	0	0.0

Table 4: Number of transplanted organs

	Total	First Tx	(%)	Re Tx	(%)	Subsequent Tx	(%)
Total	10109	8628	85.3	1236	12.2	245	2.4
Kidney	5828	4873	83.6	814	14.0	141	2.4
Liver	2281	2008	88.0	242	10.6	31	1.4
Lung	886	818	92.3	50	5.6	18	2.0
Heart	715	693	96.9	16	2.2	6	0.8
Pancreas	220	189	85.9	14	6.4	17	7.7
Islets	172	42	24.4	98	57.0	32	18.6
Small bowel	7	5	71.4	2	28.6	0	0.0

Table 5: Patient characteristics for major Tx types

	Total*	Kidney	Liver	Lung	Heart	Kidney - Pancreas
Total number of patients	8977	5271	1993	840	691	182
Age (yrs), median	55	55	56	56	51	44
Age (yrs), IQR	(43-62)	(43-63)	(46-62)	(44-61)	(37-59)	(36-51)
Age (yrs), min; max	0; 82	1; 82	0; 77	4; 73	0; 71	23; 64
Male, n(%)	5832 (65%)	3411 (64.7%)	1353 (67.9%)	455 (54.2%)	509 (73.7%)	104 (57.1%)
Pediatric, n(%)	412 (4.6%)	192 (3.6%)	142 (7.1%)	18 (2.1%)	60 (8.7%)	0 (0%)
Time on the waitinglist (months), median	11.9	18.7	7.9	6.4	6.8	16.1
- IQR	(3.5-27.9)	(5.2-39.8)	(2.2-14.5)	(2-13.7)	(1.9-16)	(7.5-23.7)
- min; max	0; 283.4	0; 283.4	0; 97.1	0; 78	0; 118.3	0.5; 124.6
Observation time (yrs), median	6.4	7.0	5.7	4.4	5.6	7.9
- IQR	(2.8-10.8)	(3.3-11.3)	(2.4-10.3)	(1.9-8.9)	(1.9-10.5)	(4.2-13.2)
- min; max	0; 18.4	0; 18.4	0; 18.3	0; 18.3	0; 18	0.1; 18.3
Number of deaths, n (%)	2078 (23.1%)	992 (18.8%)	550 (27.6%)	333 (39.6%)	175 (25.3%)	28 (15.4%)
Number of patients with at least one GF, n (%)	1081 (12%)	587 (11.1%)	249 (12.5%)	147 (17.5%)	57 (8.2%)	41 (22.5%)
Alive, with graft failure, n(%)	551 (6.1%)	410 (7.8%)	90 (4.5%)	16 (1.9%)	5 (0.7%)	30 (16.5%)
Graft failure - related death, n(%)	250 (2.8%)	13 (0.2%)	81 (4.1%)	108 (12.9%)	48 (6.9%)	0 (0%)
Graft failure -> death, n(%)	280 (3.1%)	164 (3.1%)	78 (3.9%)	23 (2.7%)	4 (0.6%)	11 (6%)
Death without graft failure, n(%)	1548 (17.2%)	815 (15.5%)	391 (19.6%)	202 (24%)	123 (17.8%)	17 (9.3%)

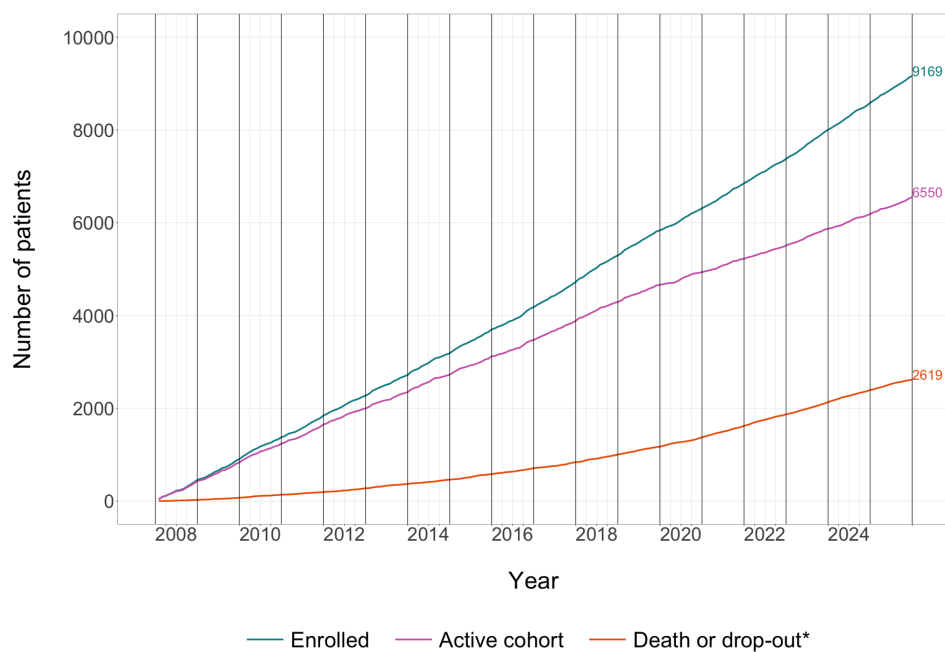
(*) "Total" refers to the total number of patients with Tx presented in this table

Table 6: Donor characteristics by type of donation

	Total	DBD	DCD	Living, KPD	Living related	Living unrelated
Total no. donors	4979	2320	612	70	971	1006
Donor age (yrs), median	54	53	60	53	54	54
- IQR	(43-64)	(36-65)	(50-69)	(46.2-61)	(44-61)	(46-62)
- min; max	0; 89	0; 89	1; 88	24; 72	1; 84	23; 79
Male gender, n (%)	2412 (48.4%)	1260 (54.9%)	415 (67.8%)	29 (41.4%)	373 (39.1%)	335 (33.8%)
No. organs donated, median	1	3	2	1	1	1
- min; max	1; 7	1; 7	1; 6	1; 1	1; 1	1; 1

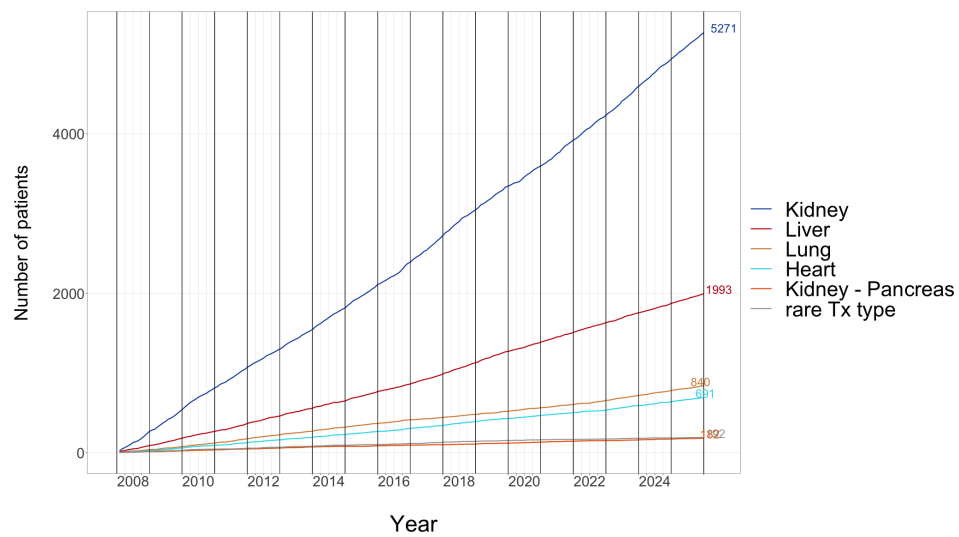
3.3 STCS patient enrolment by calendar time

Figure 1: Cumulative patient enrolment



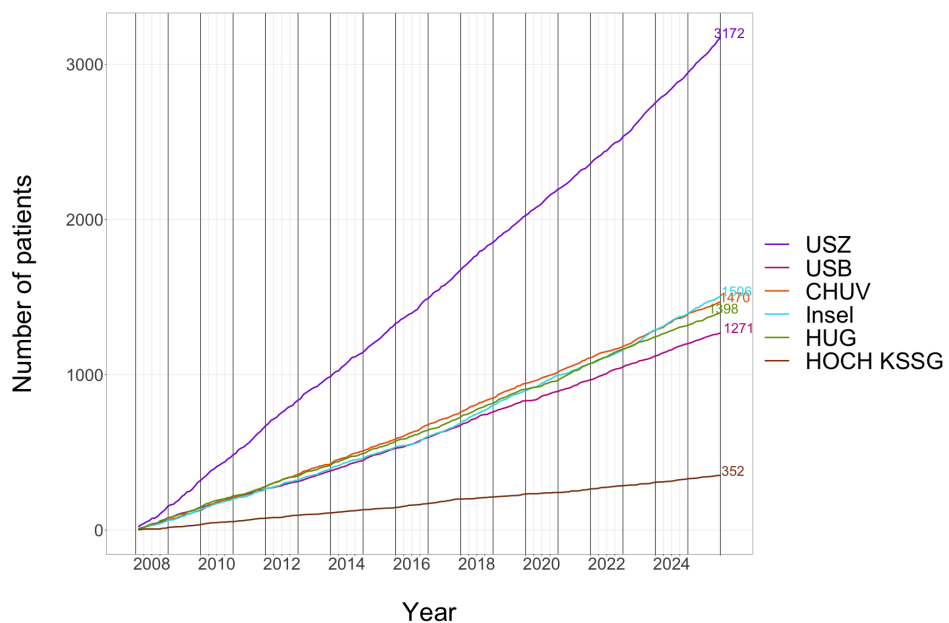
*including patients with renal Tx failure who are no longer candidates for retransplantation.

Figure 2: Cumulative patient enrolment by type of Tx



'Rare Tx type' includes: Islets, Pancreas, Small bowel, Kidney - Liver, Kidney - Islets, Kidney - Heart, Kidney - Lung, Liver - Lung, Liver - Pancreas, Heart - Lung, Islets - Liver, Pancreas - Small bowel, Kidney - Islets - Liver, Liver - Pancreas - Small bowel, Islets - Liver - Lung.

Figure 3: Cumulative patient enrolment by centre



3.4 Transplantation activities by centre and year

Table 7: Number of enrolled patients by year and centre

	Total	USZ	%	USB	%	CHUV	%	Insel	%	HUG	%	HOCH KSSG	%
Total	9169	3172	34.6	1271	13.9	1470	16	1506	16.4	1398	15.2	352	3.8
2025	586	226	38.6	70	11.9	79	13.5	112	19.1	78	13.3	21	3.6
2024	578	194	33.6	79	13.7	103	17.8	105	18.2	74	12.8	23	4
2023	628	218	34.7	72	11.5	105	16.7	130	20.7	81	12.9	22	3.5
2022	530	174	32.8	82	15.5	74	14	87	16.4	92	17.4	21	4
2021	536	165	30.8	75	14	90	16.8	74	13.8	109	20.3	23	4.3
2020	476	169	35.5	61	12.8	75	15.8	103	21.6	58	12.2	10	2.1
2019	538	173	32.2	71	13.2	95	17.7	92	17.1	88	16.4	19	3.5
2018	571	178	31.2	86	15.1	90	15.8	113	19.8	91	15.9	13	2.3
2017	545	184	33.8	79	14.5	82	15	87	16	84	15.4	29	5.3
2016	481	160	33.3	69	14.3	90	18.7	66	13.7	71	14.8	25	5.2
2015	514	186	36.2	79	15.4	78	15.2	77	15	79	15.4	15	2.9
2014	469	156	33.3	67	14.3	85	18.1	65	13.9	75	16	21	4.5
2013	445	153	34.4	69	15.5	64	14.4	74	16.6	70	15.7	15	3.4
2012	427	164	38.4	45	10.5	78	18.3	55	12.9	67	15.7	18	4.2
2011	467	187	40	58	12.4	74	15.8	65	13.9	60	12.8	23	4.9
2010	471	165	35	63	13.4	82	17.4	69	14.6	73	15.5	19	4
2009	450	165	36.7	67	14.9	61	13.6	70	15.6	68	15.1	19	4.2
2008	457	155	33.9	79	17.3	65	14.2	62	13.6	80	17.5	16	3.5

Table 8: Number of Tx by year and centre

	Total	USZ	%	USB	%	CHUV	%	Insel	%	HUG	%	HOCH KSSG	%
Total	9775	3393	34.7	1306	13.4	1533	15.7	1623	16.6	1555	15.9	365	3.7
2025	643	244	37.9	75	11.7	85	13.2	124	19.3	92	14.3	23	3.6
2024	637	214	33.6	85	13.3	111	17.4	113	17.7	87	13.7	27	4.2
2023	675	236	35	74	11	111	16.4	138	20.4	93	13.8	23	3.4
2022	571	186	32.6	86	15.1	80	14	97	17	101	17.7	21	3.7
2021	586	181	30.9	77	13.1	93	15.9	90	15.4	122	20.8	23	3.9
2020	519	182	35.1	65	12.5	79	15.2	112	21.6	70	13.5	11	2.1
2019	582	179	30.8	73	12.5	101	17.4	108	18.6	102	17.5	19	3.3
2018	599	186	31.1	91	15.2	90	15	121	20.2	98	16.4	13	2.2
2017	578	197	34.1	79	13.7	86	14.9	93	16.1	93	16.1	30	5.2
2016	503	171	34	69	13.7	91	18.1	72	14.3	74	14.7	26	5.2
2015	555	199	35.9	81	14.6	83	15	82	14.8	94	16.9	16	2.9
2014	504	178	35.3	68	13.5	88	17.5	67	13.3	81	16.1	22	4.4
2013	471	167	35.5	69	14.6	66	14	78	16.6	76	16.1	15	3.2
2012	448	173	38.6	45	10	81	18.1	56	12.5	75	16.7	18	4
2011	492	197	40	60	12.2	76	15.4	71	14.4	64	13	24	4.9
2010	487	174	35.7	63	12.9	83	17	69	14.2	79	16.2	19	3.9
2009	466	173	37.1	67	14.4	64	13.7	70	15	73	15.7	19	4.1
2008	459	156	34	79	17.2	65	14.2	62	13.5	81	17.6	16	3.5

4 Consent status

Figure 4: Patients current consent status

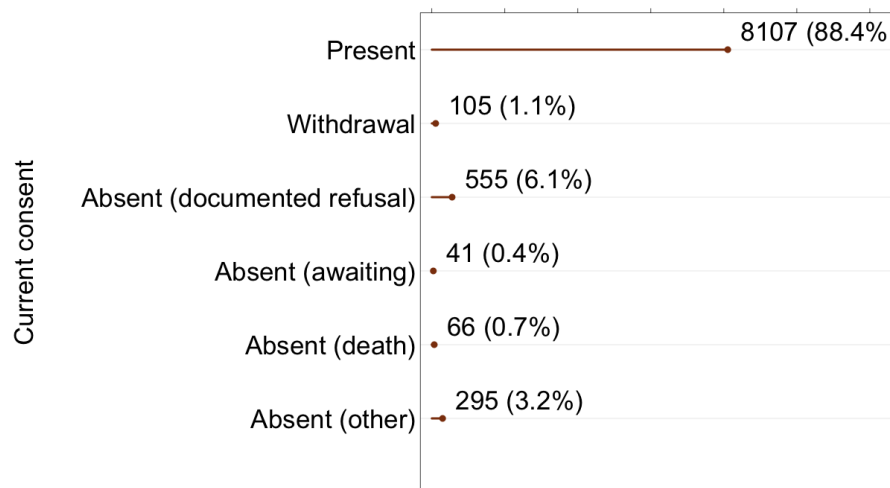
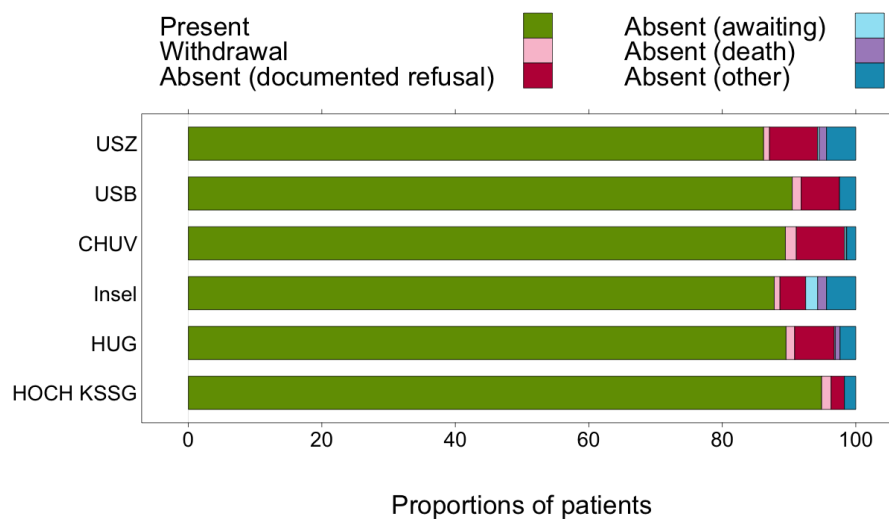


Figure 5: Patients current consent status by centre



Remarks: Absent (other) reasons include: Permanent illness/Too sick, Language/Communication barrier, Psychiatric disorder, Reminder process closed, Retrospectively captured patients and Other reason.

Table 9: Patients' current consent against consent status at first transplantation

	Total	C - Present	C - Withdrawal	C - Refused	C - Absent (awaiting)	C - Absent (death)	C - Absent (other)
Total	9169	8107	105	555	41	66	295
E - Present	7207	7101	92	5	1	1	7
E - Refused	451	28	1	422	-	-	-
E - Absent (awaiting)	1346	967	12	127	39	57	144
E - Absent (death)	7	-	-	-	-	7	-
E - Absent (other)	158	11	-	1	1	1	144

Remarks: 'C' stands for 'current consent status' and 'E' denotes the consent status at enrolment. Absent (other) reasons include: Permanent illness/Too sick, Language/Communication barrier, Psychiatric disorder, Reminder process closed, Other reason.

5 Patient and transplant outcome reporting

5.1 Death and dropout

Table 10: Follow-up information of patients

	Follow-up
Median follow-up duration (years)	6.48
IQR (years)	2.84 - 10.84
Maximum follow-up (years)*	18.35
Number of deaths	2140
Patients with any graft failure	1129
Patients lost to follow-up**	272

* Time period from 1 January 2008 to 11 May 2026

** More details in Table 11.

Table 11: Number of patients who dropped out

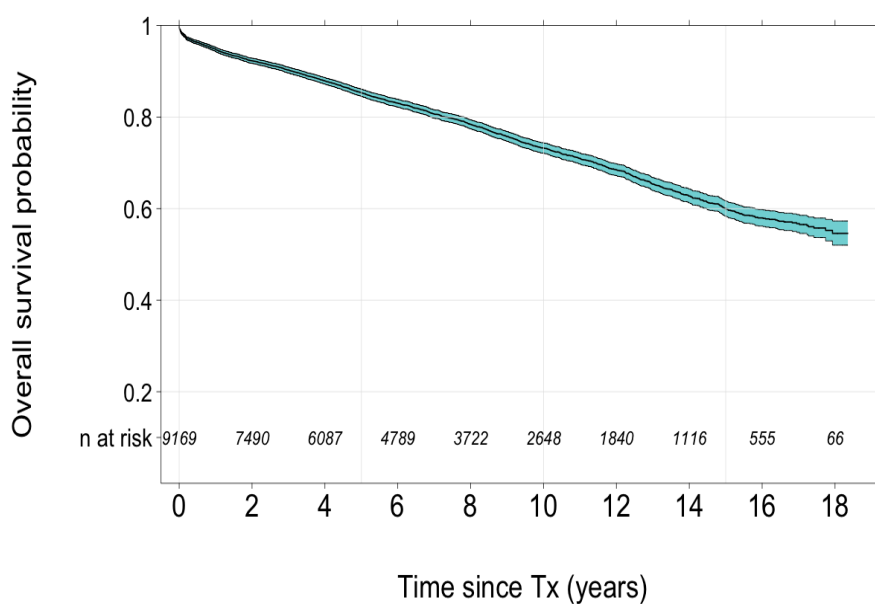
	CHUV	HOCH KSSG	HUG	Insel	USB	USZ	Sum
Enrolled, N	1470	352	1398	1506	1271	3172	9169
Dropped out, N (%)	80 (5.4%)	4 (1.1%)	66 (4.7%)	30 (2%)	20 (1.6%)	72 (2.3%)	272 (3%)
- Heart	6	-	-	3	-	4	13
- Islets	-	-	-	-	-	2	2
- Kidney	66	4	26	20	20	35	171
- Kidney - Heart	1	-	-	-	-	-	1
- Kidney - Liver	-	-	1	-	-	-	1
- Kidney - Lung	1	-	-	-	-	-	1
- Kidney - Pancreas	-	-	1	-	-	4	5
- Liver	-	-	38	7	-	25	70
- Lung	6	-	-	-	-	2	8

Table 12: Overall mortality

Time	Mortality (%)	95% CI	No at risk	Cum. deaths
Baseline	0.0	-	9169	0
1 month	1.8	(1.5, 2.1)	9000	166
6 months	3.7	(3.3, 4.1)	8729	339
1 year	5.2	(4.8, 5.7)	8299	475
2 year(s)	7.7	(7.2, 8.3)	7490	686
4 year(s)	12.1	(11.4, 12.8)	6087	1014
6 year(s)	17.0	(16.1, 17.8)	4789	1323
8 year(s)	21.6	(20.6, 22.6)	3722	1567
10 year(s)	26.8	(25.6, 27.9)	2648	1782
12 year(s)	31.5	(30.2, 32.8)	1840	1931
14 year(s)	37.3	(35.7, 38.8)	1116	2059
16 year(s)	42.0	(40.2, 43.8)	555	2125
18 year(s)	45.4	(42.7, 48)	66	2140
Overall	45.4	(42.7, 48)	-	2140

Remarks: 'Cum.' stands for 'Cumulative'. The 95%-CI is given for 'Mortality'. The time point 'Overall' refers to the maximal follow-up time in the STCS (from January 2008 to 11 May 2026).

Figure 6: Patient overall survival, full STCS population



5.2 Graft failure and primary non-function

Table 13: Summary for graft failures

	N	(%)
Graft failure - total	1263	100.0
- in single Tx	1165	92.2
- in double Tx	92	7.3
- in triple Tx	6	0.5
Patients with any graft failure	1140	
Patients with graft failure or death	2718	100.0
- graft failure and alive at end of follow-up	578	21.3
- graft failure followed by late death	296	10.9
- graft failure related death (at same day)	255	9.4
- death without any graft failure	1589	58.5

Table 14: Graft failures in simultaneous Tx

	Total	Heart	Islets	Kidney	Liver	Lung	Pancreas	Small bowel
Total	92	3	12	35	6	2	32	2
Heart - Lung	2	1	-	-	-	1	-	-
Kidney - Heart	3	2	-	1	-	-	-	-
Kidney - Islets	19	-	12	7	-	-	-	-
Kidney - Liver	11	-	-	5	6	-	-	-
Kidney - Lung	1	-	-	1	-	-	-	-
Kidney - Pancreas	51	-	-	21	-	-	30	-
Liver - Lung	1	-	-	-	-	1	-	-
Pancreas - Small bowel	4	-	-	-	-	-	2	2

Remark: Only simultaneous Tx with at least one graft failure are listed.

Table 15: Graft failure and related patients' death

	Total	All GF*	(%)	GF, late death	(%)	GF related death	(%)
Total	10109	1263	12.5	332	26.3	301	23.8
Kidney	5828	656	11.3	180	27.4	16	2.4
Liver	2281	308	13.5	94	30.5	112	36.4
Lung	886	160	18.1	23	14.4	121	75.6
Heart	715	61	8.5	4	6.6	52	85.2
Islets	172	32	18.6	12	37.5	-	-
Pancreas	220	41	18.6	14	34.1	-	-
Small bowel	7	5	71.4	5	100	-	-

5.3 Outcome overview all transplant programs

Figure 7: Overall survival for common Tx types

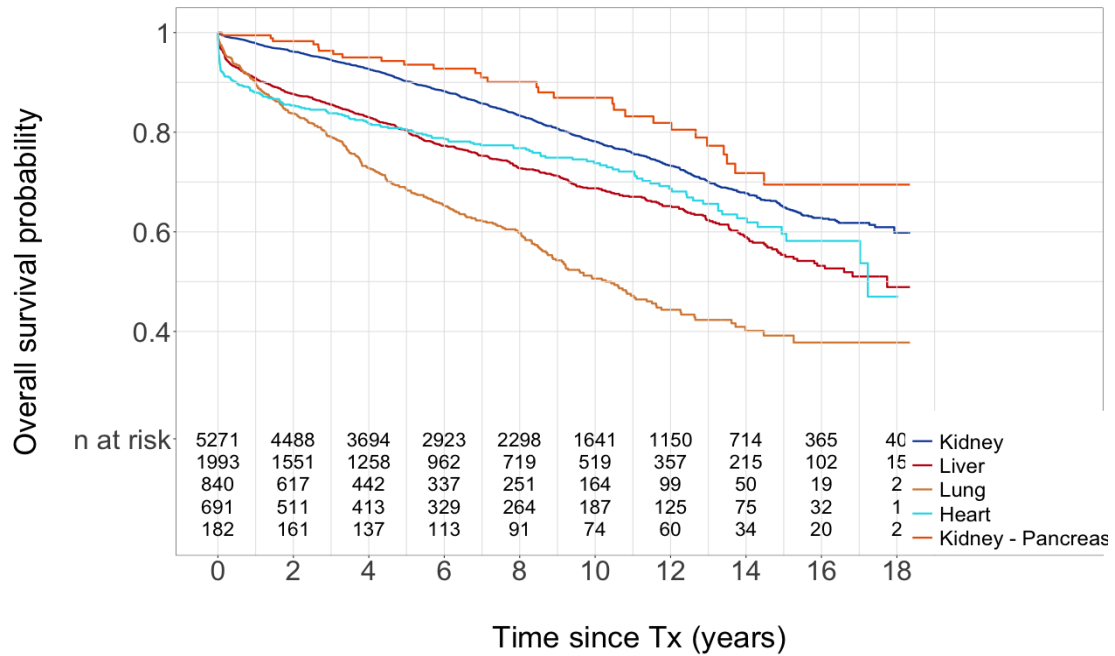


Figure 8: Graft failure free survival, main SOT programs

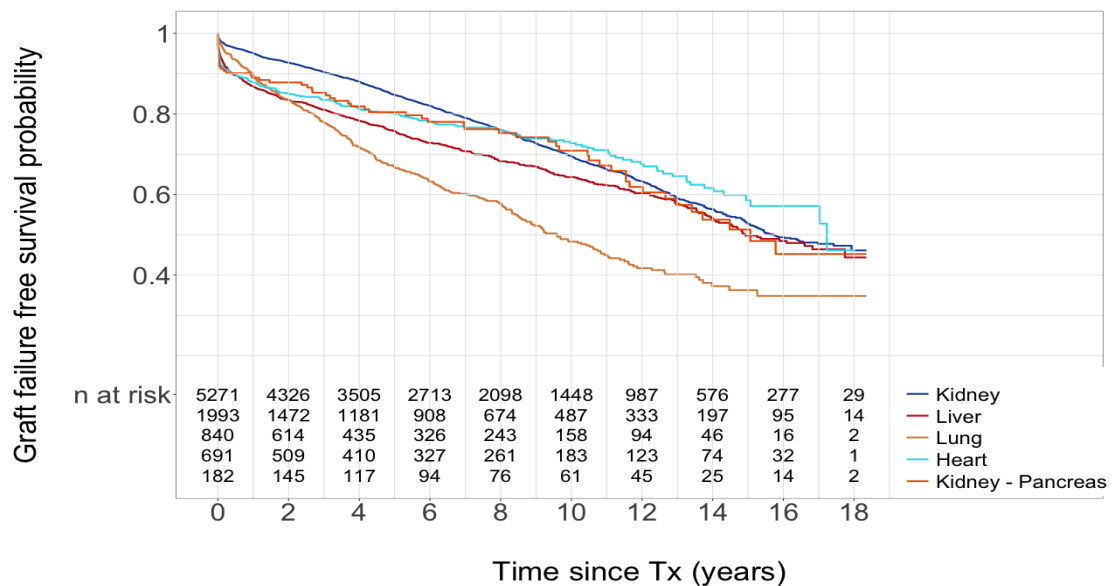
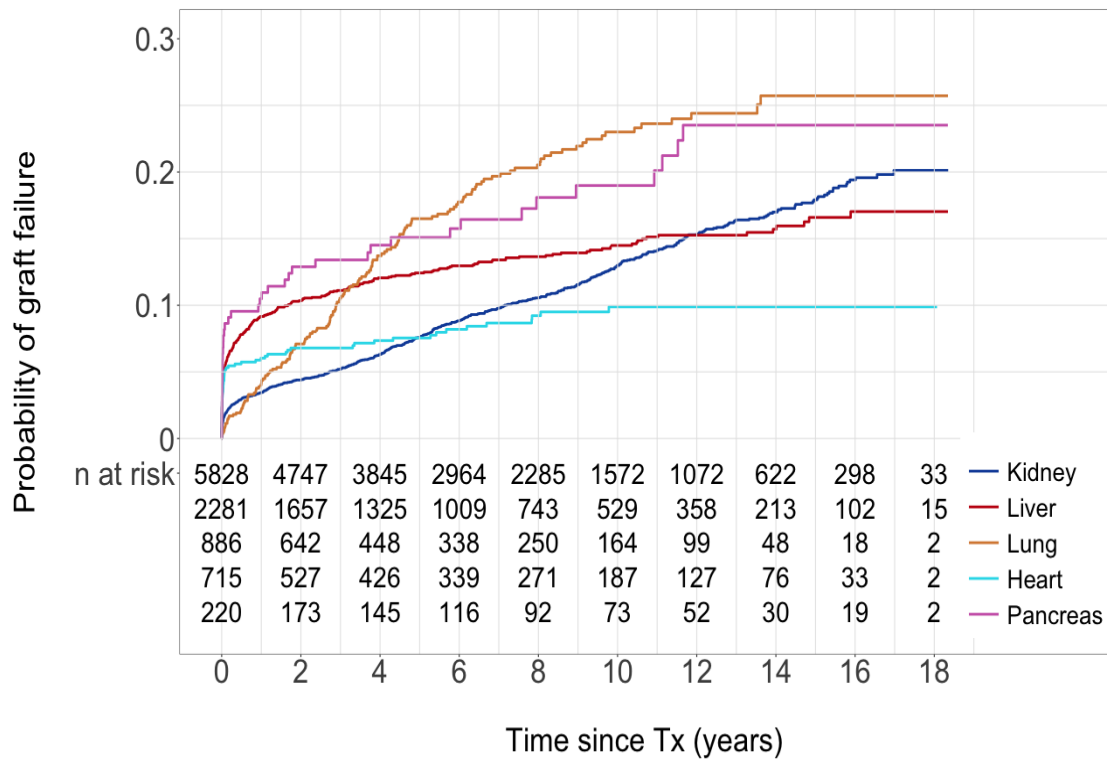


Figure 9: Cumulative incidence of graft failure



Remark: The cumulative incidence (CumInc) of a graft failure is the probability for a graft failure within the reported time period. CumInc functions for graft failure are not adjusted for potential risk factors (illustrated in Figures and Tables). In Figure 9 double kidneys are counted as one kidney.

5.4 Kidney transplant program

Figure 10: Number of single kidney Tx by type of donation

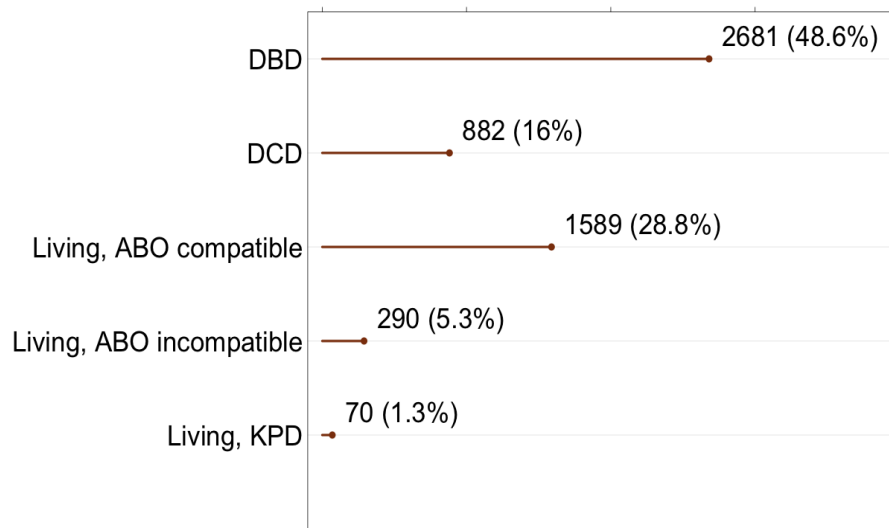


Figure 11: Distribution of type of donation by centre, single kidney Tx

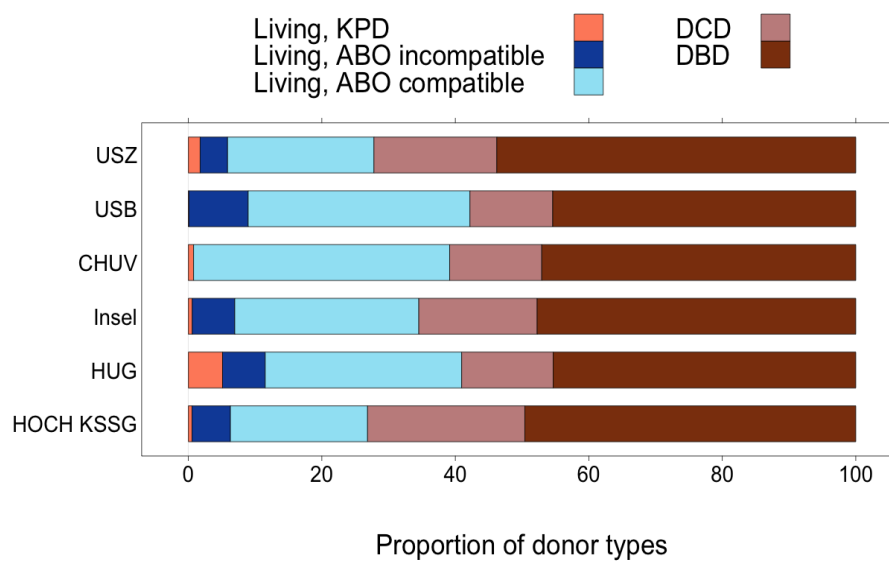


Table 16: Kidney Tx recipient characteristics by type of donation

	Total*	DBD	DCD	Living
Total number of patients	5271	2531	837	1903
Age (yrs), median	55	56	59	50
Age (yrs), IQR	(43-63)	(45-65)	(50-66)	(37-60)
Age (yrs), min; max	1; 82	1; 82	5; 81	1; 79
Pediatric, n(%)	192 (3.6%)	115 (4.5%)	8 (1%)	69 (3.6%)
Male, n(%)	3411 (64.7%)	1611 (63.7%)	522 (62.4%)	1278 (67.2%)
Donor age (yrs), median	55	55	58	55
- IQR	(45-64)	(41-65)	(49-65)	(46.5-62)
- min; max	0; 88	0; 88	1; 88	1; 84
Cold ischemia time (yrs), median	6.8	9.2	8.8	1.8
- IQR	(2.1-10.2)	(7.2-12.3)	(7.1-11.4)	(1.4-2.4)
- min; max	-166.7; 141	-166.7; 141	2.1; 40.2	-166.7; 58
Time on the waitinglist (months), median	18.7	30.5	31.3	5.0
- IQR	(5.2-39.8)	(16.1-49)	(14-49.8)	(1.1-12.4)
- min; max	0; 283.4	0; 232.9	0.1; 283.4	0; 177.3
Observation time (yrs), median	7.0	7.5	3.4	8.3
- IQR	(3.3-11.3)	(3.8-11.6)	(1.8-6.4)	(4.2-12.4)
- min; max	0; 18.4	0; 18.4	0; 14.5	0; 18.3
Number of DGF, n (%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Number of deaths, n (%)	992 (18.8%)	630 (24.9%)	112 (13.4%)	250 (13.1%)
Number of patients with at least one GF, n (%)	587 (11.1%)	375 (14.8%)	66 (7.9%)	146 (7.7%)
Alive, with graft failure, n(%)	410 (7.8%)	259 (10.2%)	44 (5.3%)	107 (5.6%)
Graft failure - related death, n(%)	13 (0.2%)	7 (0.3%)	2 (0.2%)	4 (0.2%)
Graft failure -> death, n(%)	164 (3.1%)	109 (4.3%)	20 (2.4%)	35 (1.8%)
Death without graft failure, n(%)	815 (15.5%)	514 (20.3%)	90 (10.8%)	211 (11.1%)

Figure 12: Cumulative number of patients enrolled from KPD program by centre

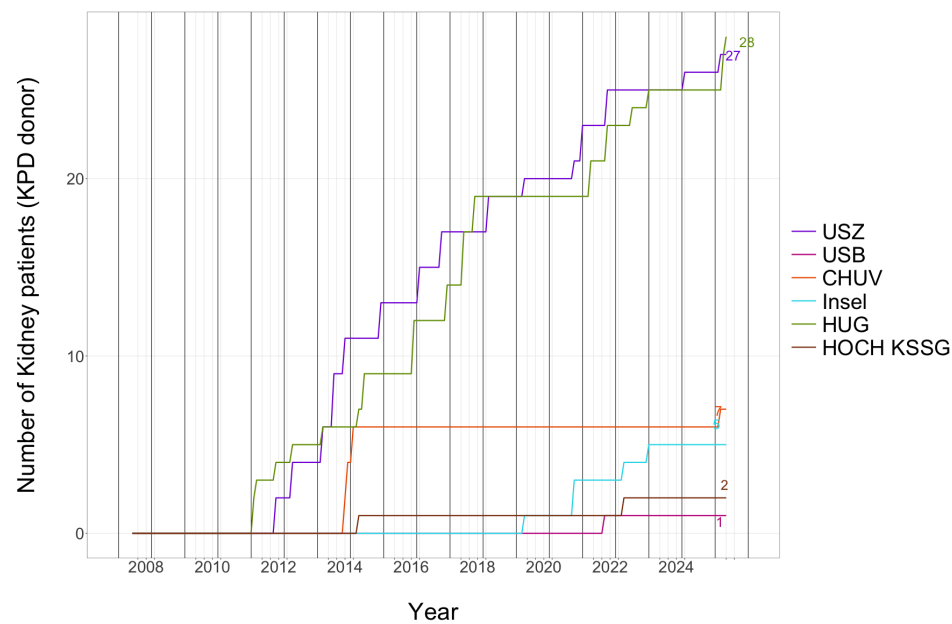


Figure 13: Cumulative number of renal SOT recipients from DCD donation by centre

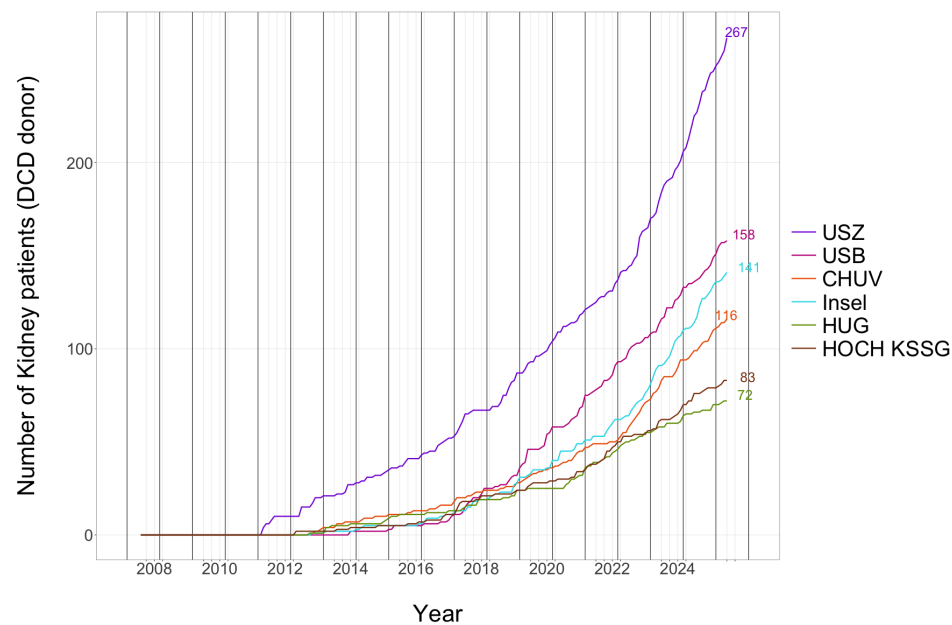


Figure 14: Patient survival kidney Tx program by type of donation

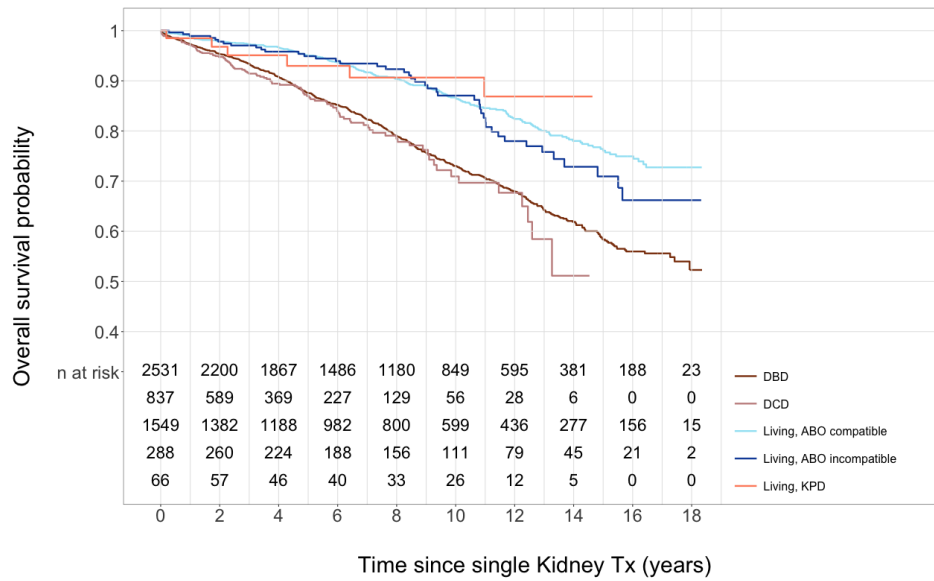


Figure 15: Graft-failure free survival kidney Tx program, by type of donation

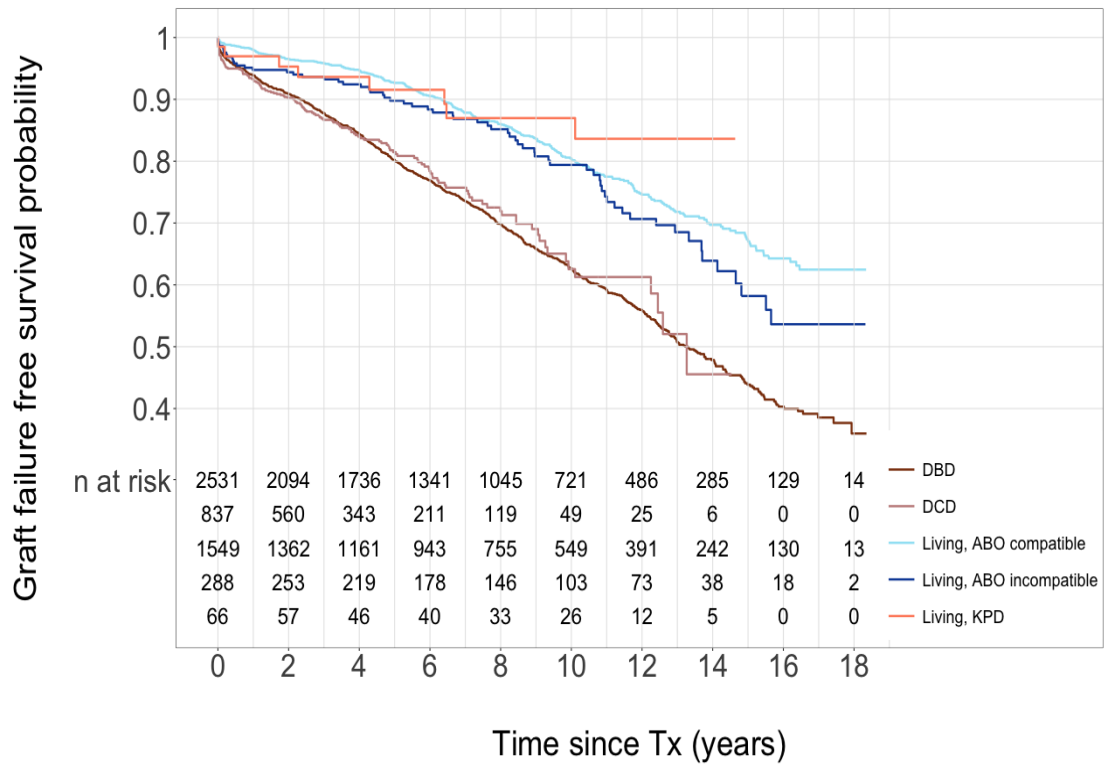


Figure 16: Cumulative incidence of graft failure for kidney Tx by donor type

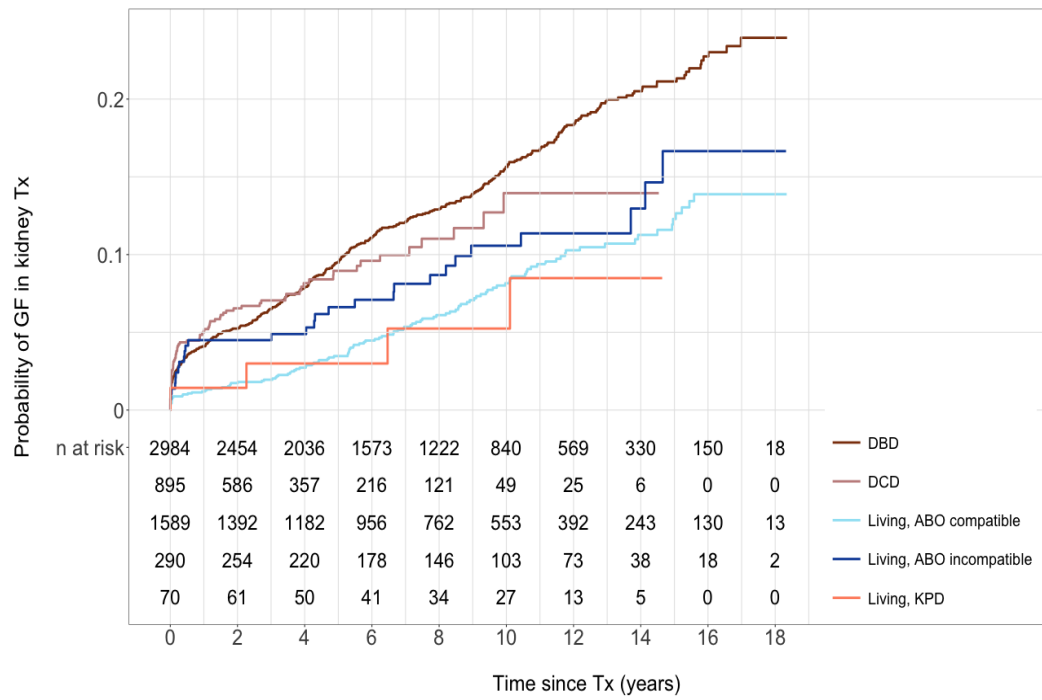


Figure 17: Patient survival kidney Tx program by calendar period

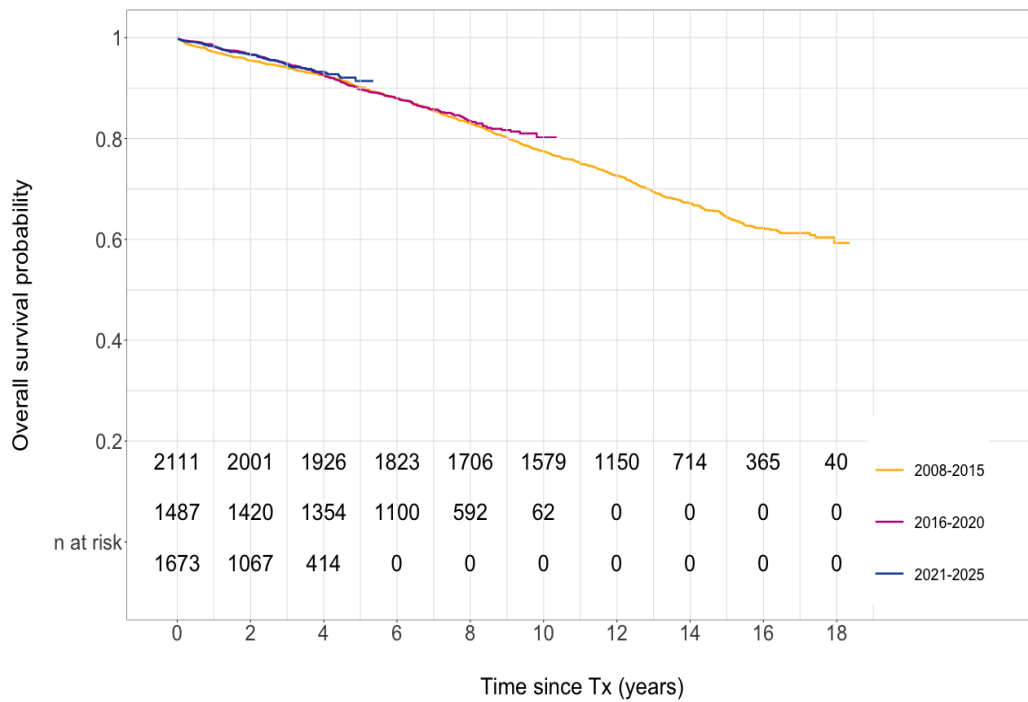
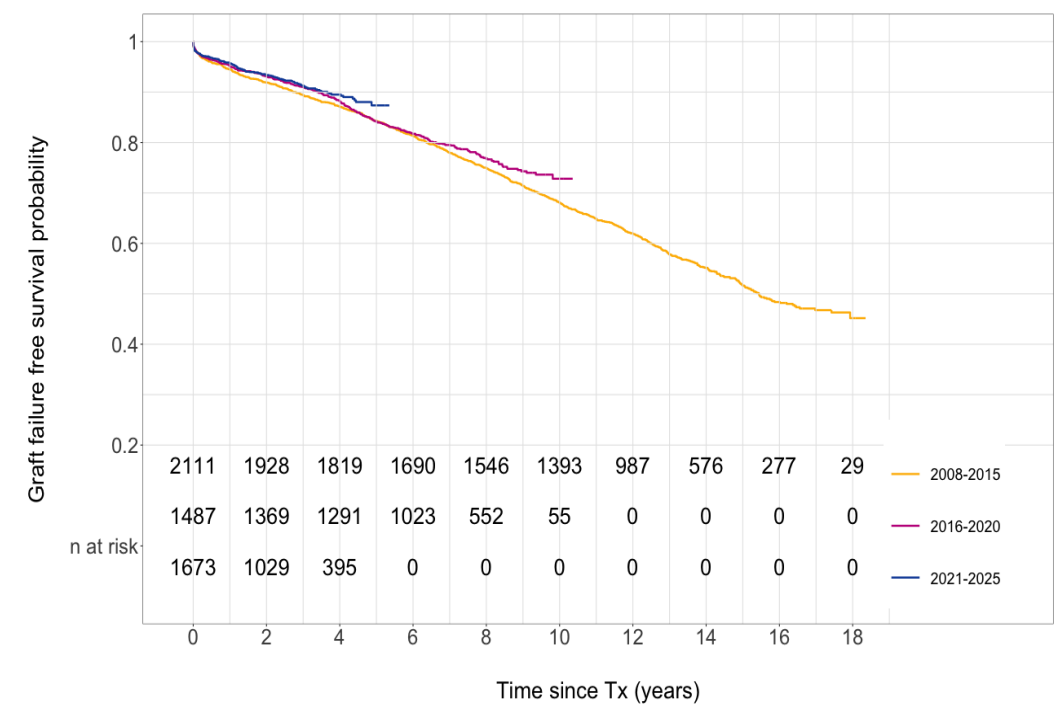


Figure 18: Graft-failure free survival kidney Tx program by calendar period



5.5 Liver transplant program

Figure 19 show all STCS single liver transplantations by type of donation and figure 20 the proportions of donor types in all single liver transplantations within centres. Table 17 lists the liver Tx recipients characteristics by donor type. Figure 21 shows the enrollment of patients with liver transplantation from DCD donation by centre.

Figure 19: Number of single liver Tx by type of donation

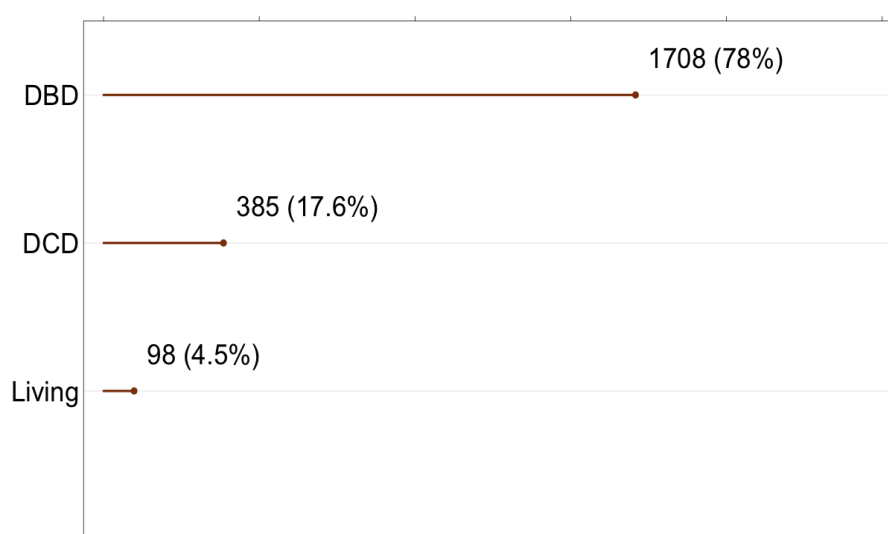


Figure 20: Single liver Tx: Distribution according to type of donation and centre

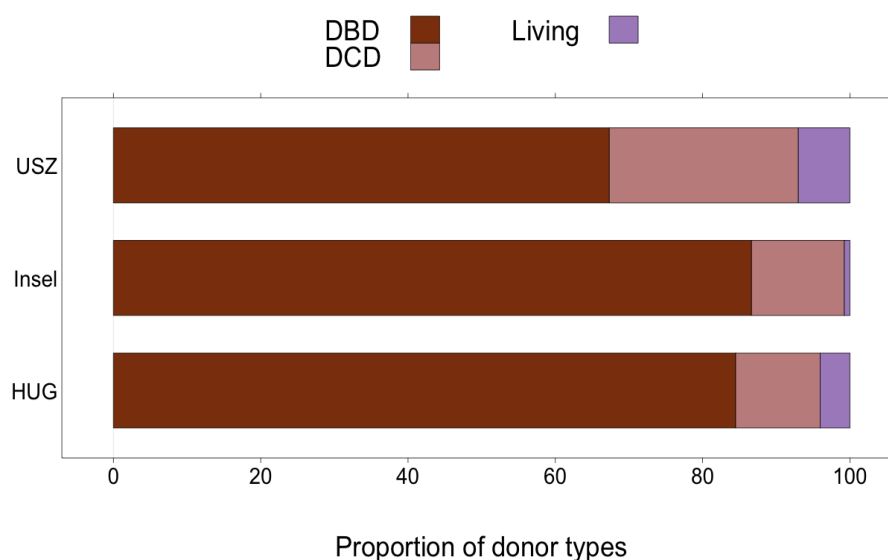


Table 17: Liver Tx recipient characteristics by type of donation

	Total*	DBD	DCD	Living
Total number of patients	1993	1522	375	96
Age (yrs), median	56.0	55.0	60.0	52.5
Age (yrs), IQR	(46-62)	(44-62)	(54-65)	(39-61)
Age (yrs), min; max	0; 77	0; 77	22; 73	0; 71
Pediatric, n(%)	142 (7.1%)	133 (8.7%)	0 (0%)	9 (9.4%)
Male, n(%)	1353 (67.9%)	1004 (66%)	297 (79.2%)	52 (54.2%)
Donor age (yrs), median	55	55	61	37
- IQR	(38.8-68)	(38-67)	(49.5-70)	(31-45.2)
- min; max	1; 88	1; 88	13; 88	19; 68
Cold ischemia time (yrs), median	6.6	6.5	7.6	2.1
- IQR	(5.4-8.2)	(5.4-8)	(6.4-9.2)	(1.5-2.5)
- min; max	-6.5; 17.2	0.8; 17.2	-6.5; 17.2	0.6; 8.1
Time on the waitinglist (months), median	7.9	7.8	9.4	5.7
- IQR	(2.2-14.5)	(1.7-14.4)	(3.5-16.1)	(3.4-8.4)
- min; max	0; 97.1	0; 97.1	0; 74.1	0; 47.8
Observation time (yrs), median	5.7	6.7	3.3	6.7
- IQR	(2.4-10.3)	(2.9-11.2)	(1.4-5.9)	(1.9-12.2)
- min; max	0; 18.3	0; 18.3	0; 13	0; 18.3
Number of DGF, n (%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Number of deaths, n (%)	550 (27.6%)	424 (27.9%)	86 (22.9%)	40 (41.7%)
Number of patients with at least one GF, n (%)	249 (12.5%)	160 (10.5%)	64 (17.1%)	25 (26%)
Alive, with graft failure, n(%)	90 (4.5%)	54 (3.5%)	29 (7.7%)	7 (7.3%)
Graft failure - related death, n(%)	81 (4.1%)	61 (4%)	14 (3.7%)	6 (6.2%)
Graft failure -> death, n(%)	78 (3.9%)	45 (3%)	21 (5.6%)	12 (12.5%)
Death without graft failure, n(%)	391 (19.6%)	318 (20.9%)	51 (13.6%)	22 (22.9%)

Figure 21: Cumulative number of patients with liver Tx from DCD donation by centre

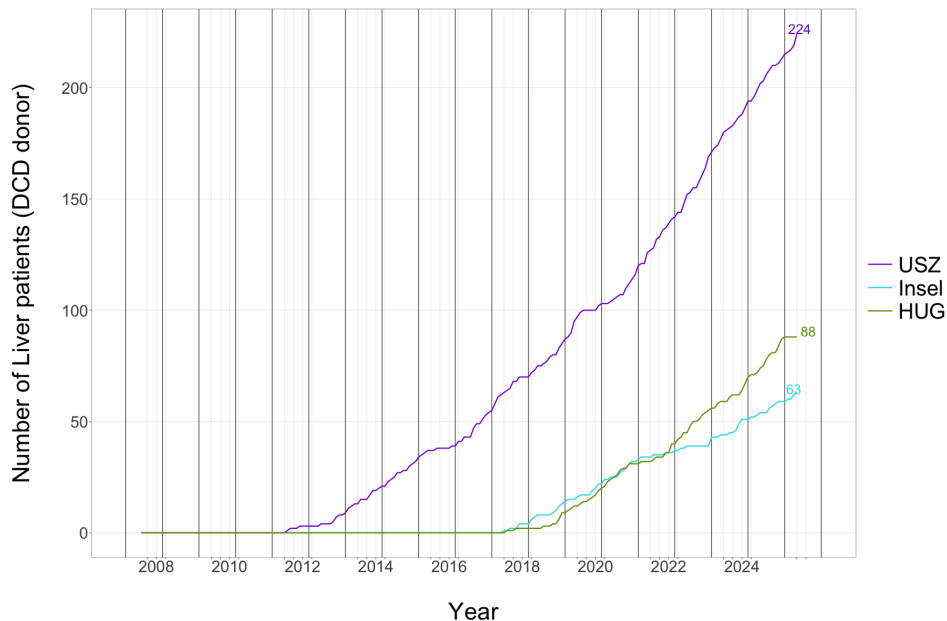


Figure 22: Patient survival liver Tx program by type of donation

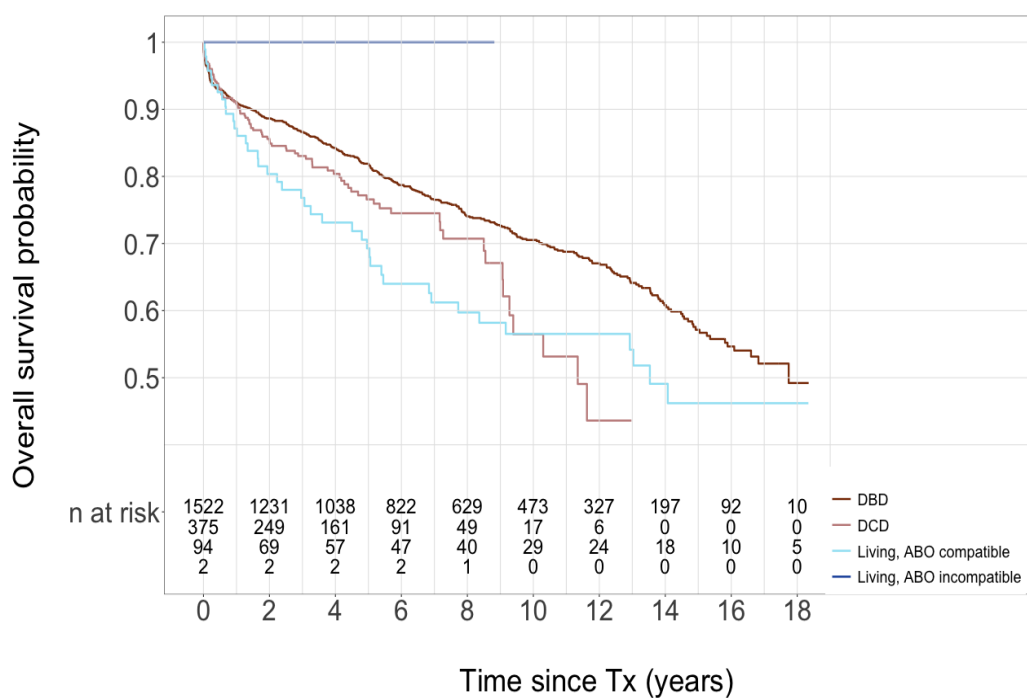


Figure 23: Re-transplantation free survival liver Tx program by type of donation

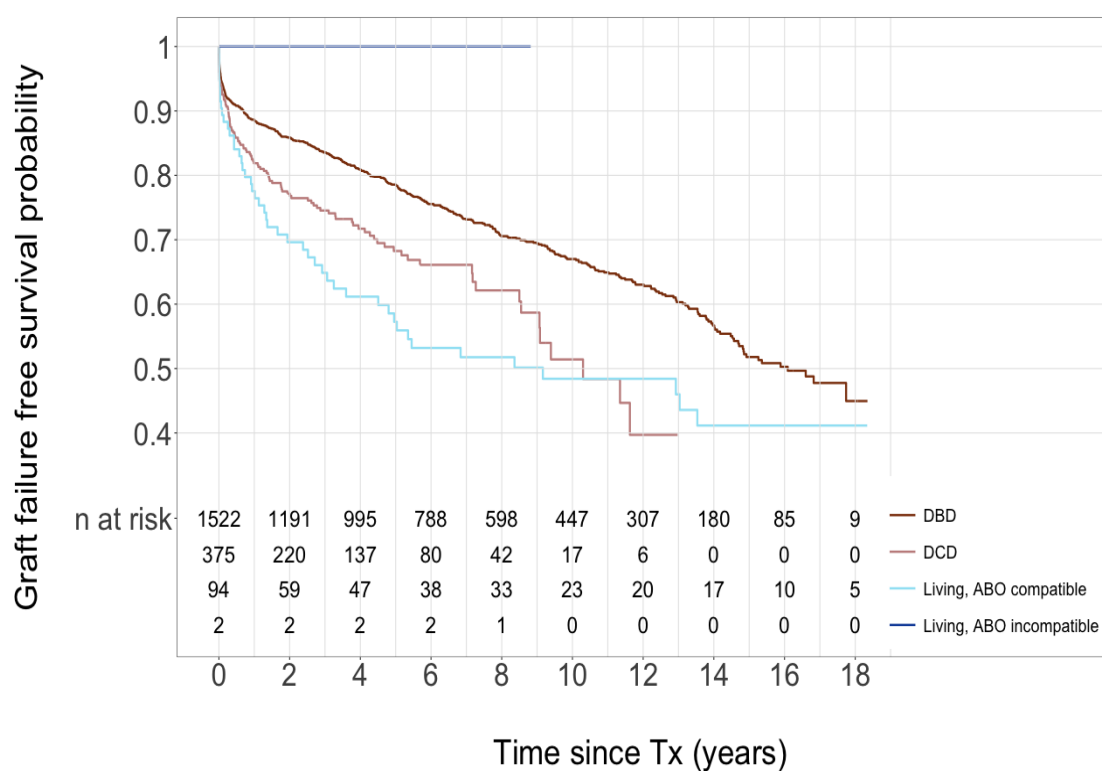


Figure 24: Patient survival liver Tx program by calendar period

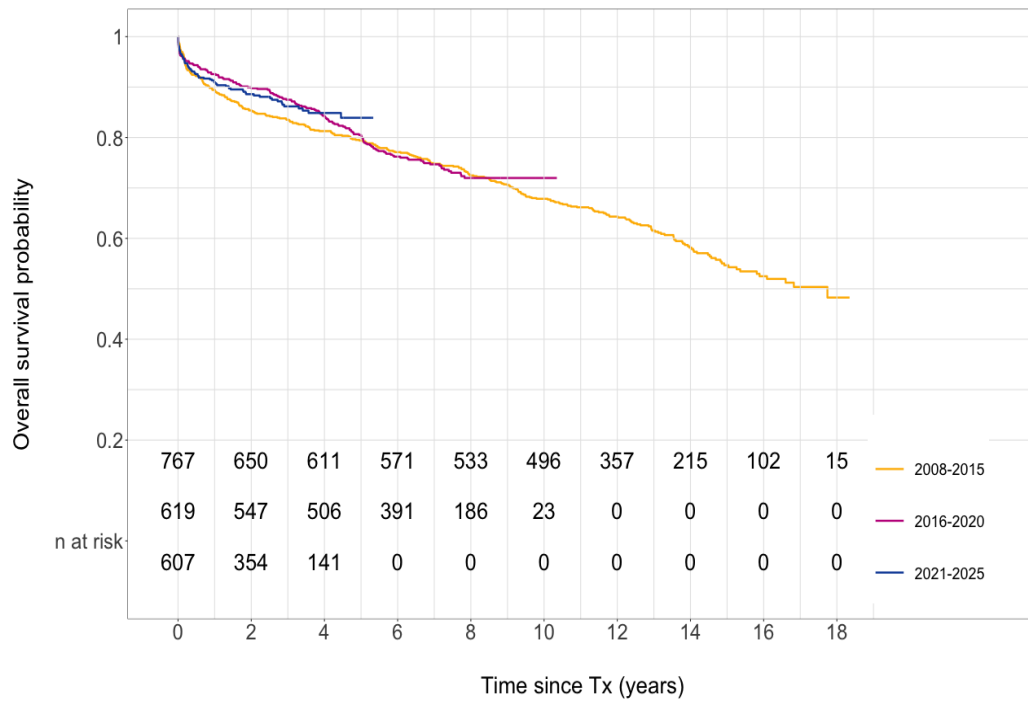
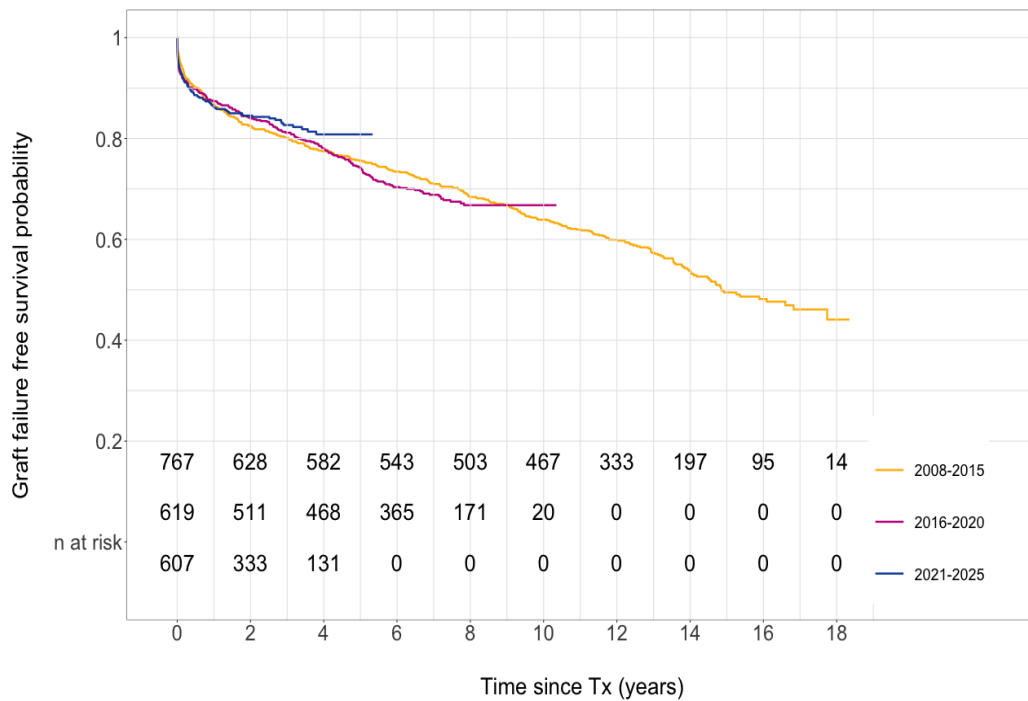


Figure 25: Re-transplantation free survival liver Tx program by calendar period



5.6 Lung transplant program

Figure 26: Patient survival lung Tx program by type of donation

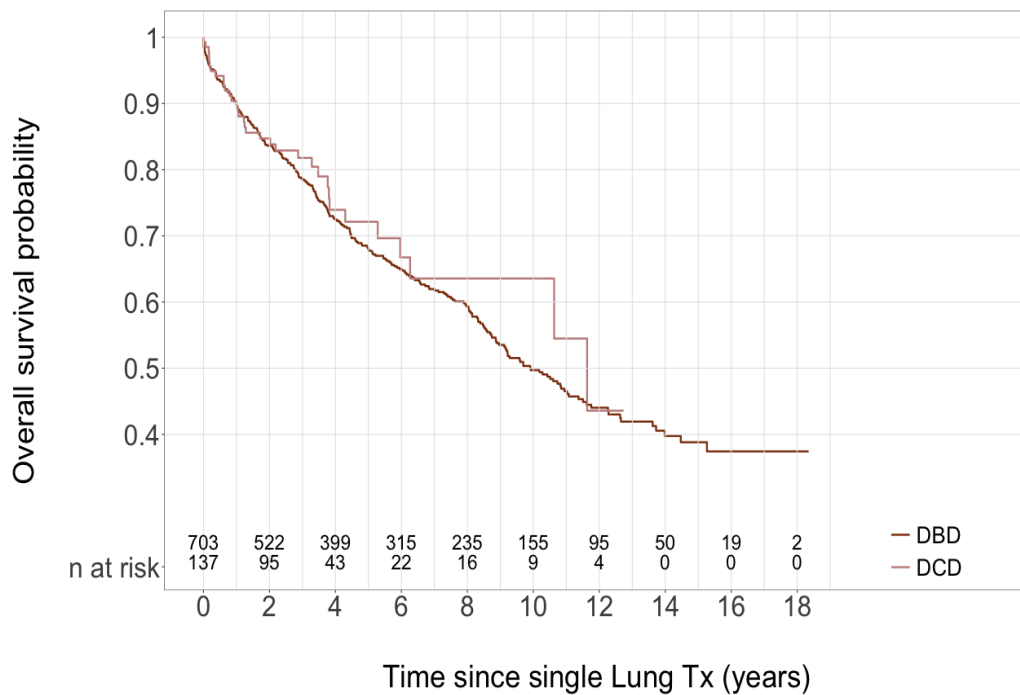


Figure 27: Re-transplantation free survival lung Tx program by type of donation

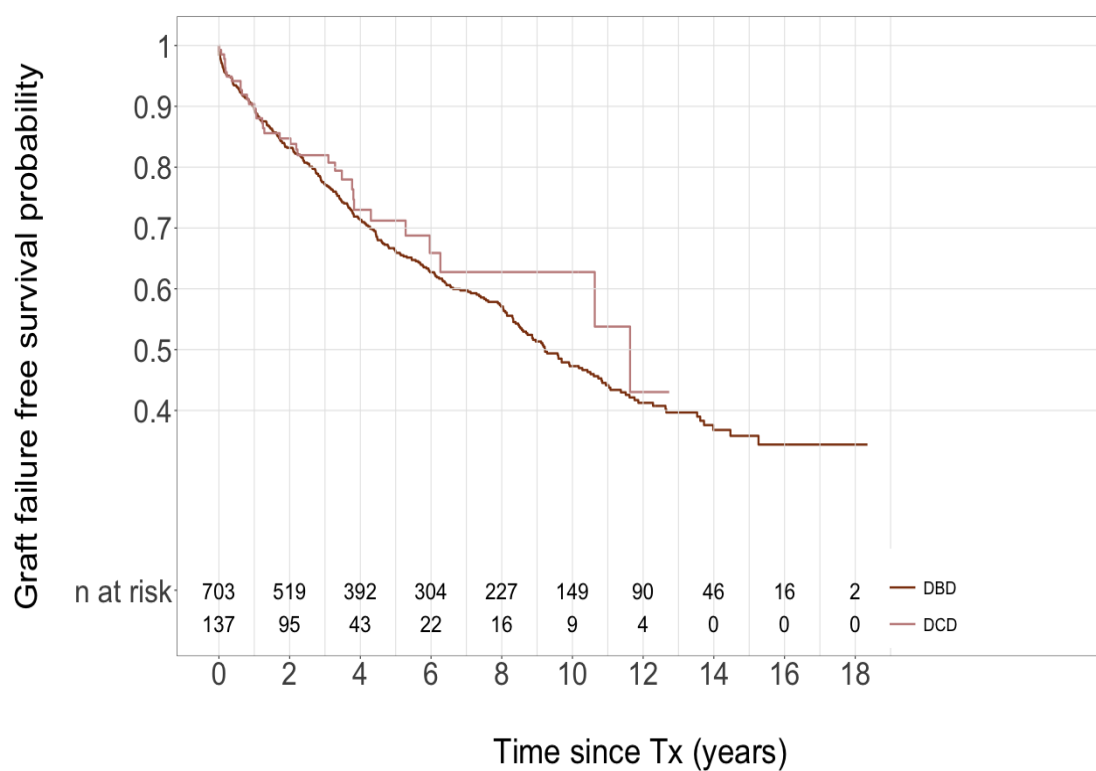


Figure 28: Patient survival lung Tx program by calendar period

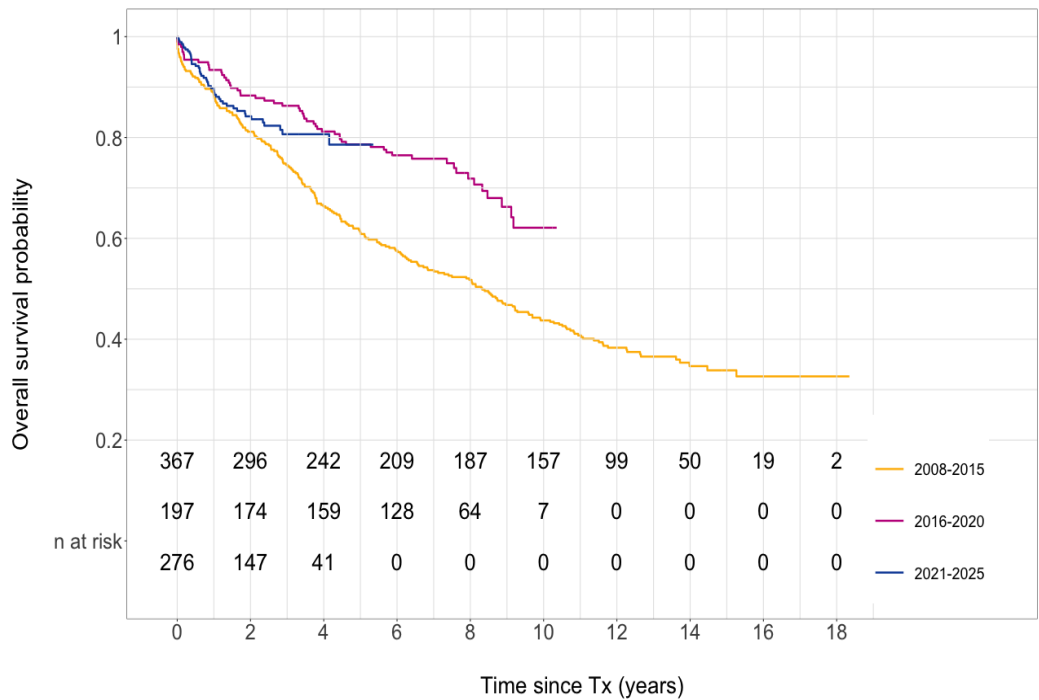
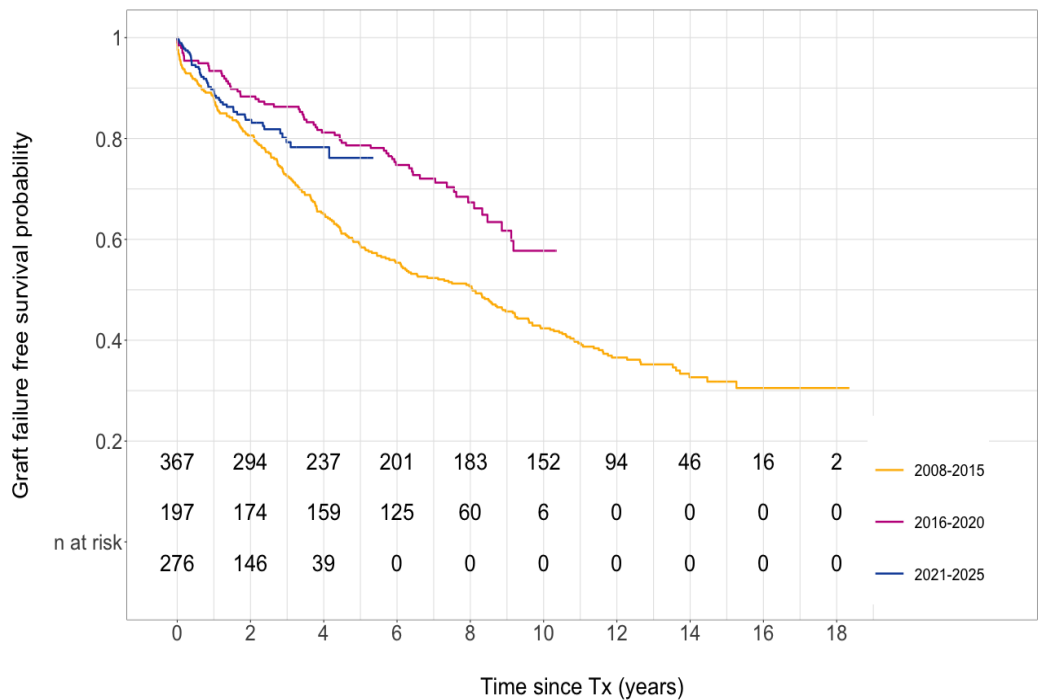


Figure 29: Re-transplantation free survival lung Tx program by calendar period



5.7 Heart transplant program

Figure 30: Cumulative number of patients with heart Tx from DCD donation by centre

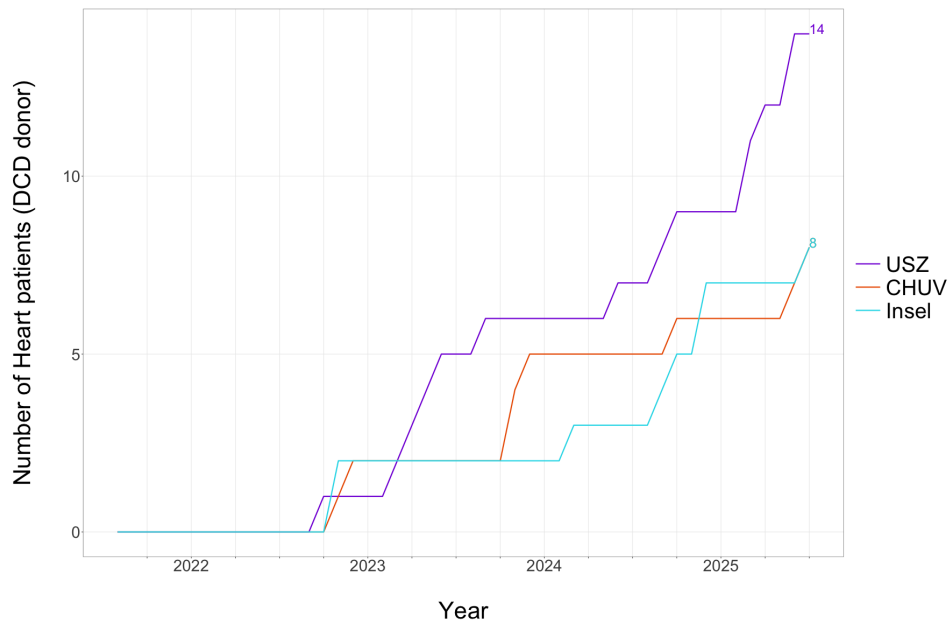


Figure 31: Patient survival heart Tx program by type of donation

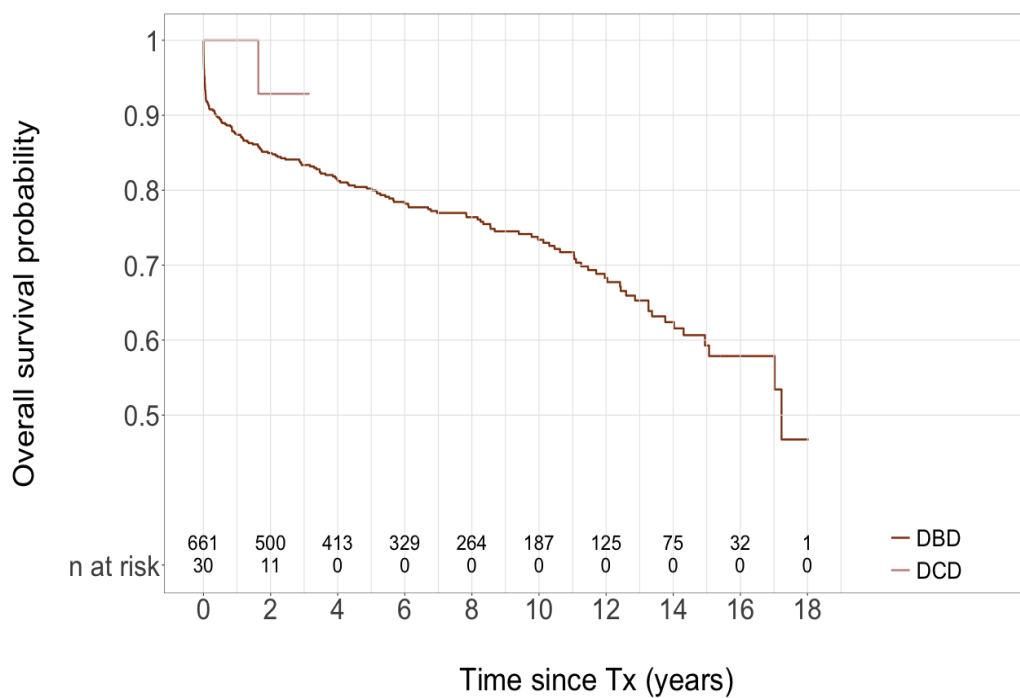


Figure 32: Patient survival heart Tx program by calendar period

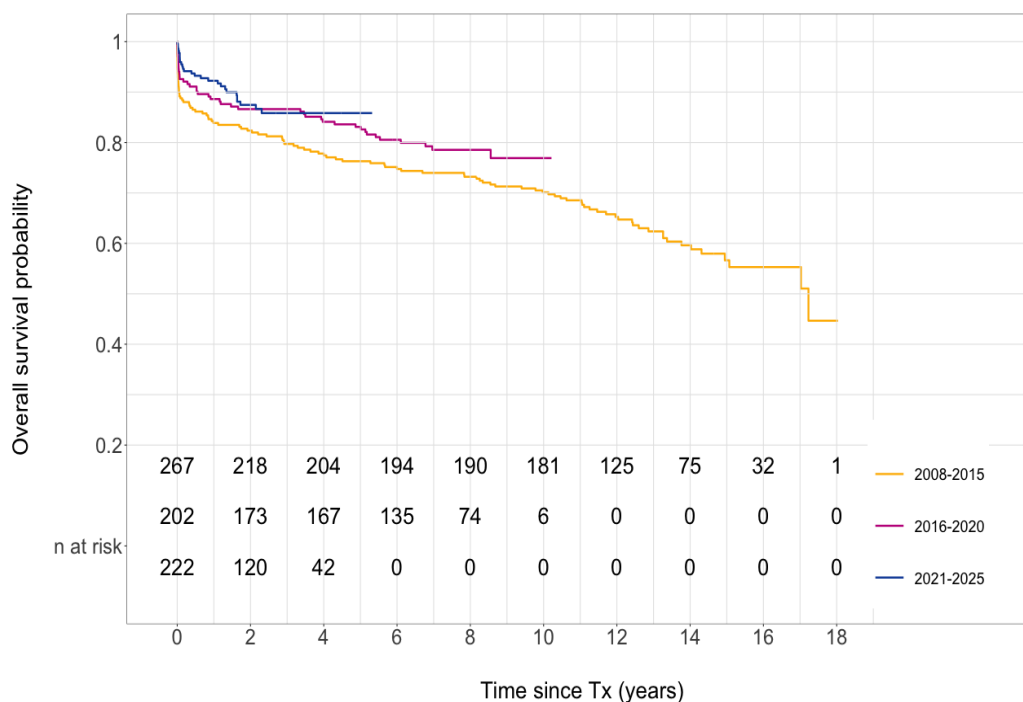
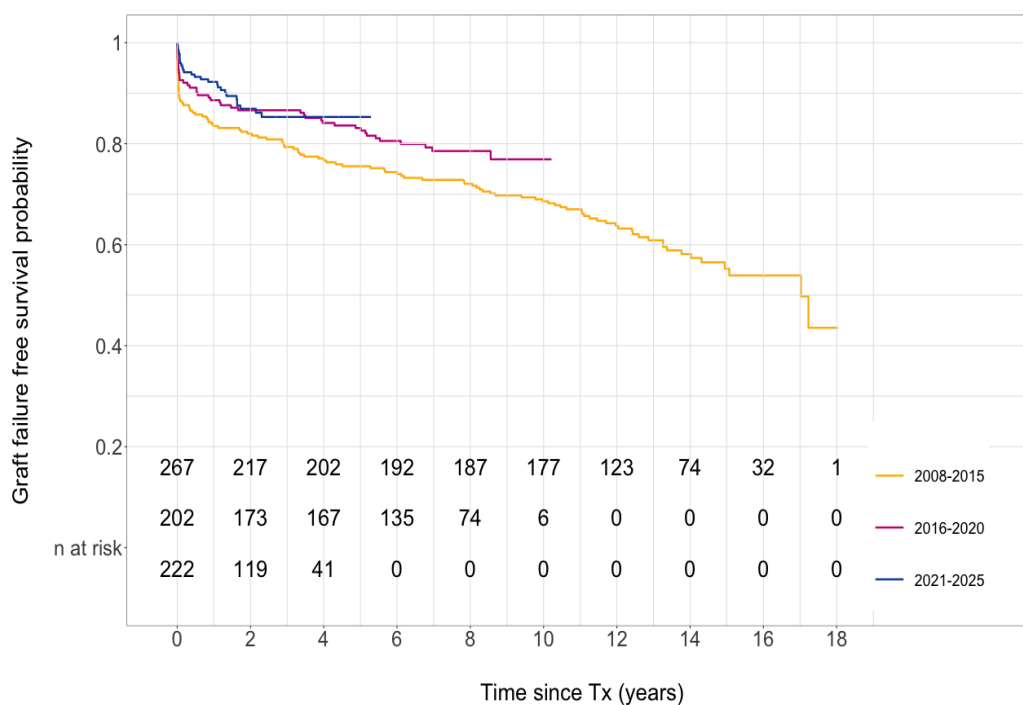


Figure 33: Re-transplantation free survival heart Tx program by calendar period



5.8 Outcome by transplant program and centre

Figure 34: Patient survival kidney Tx program by centre

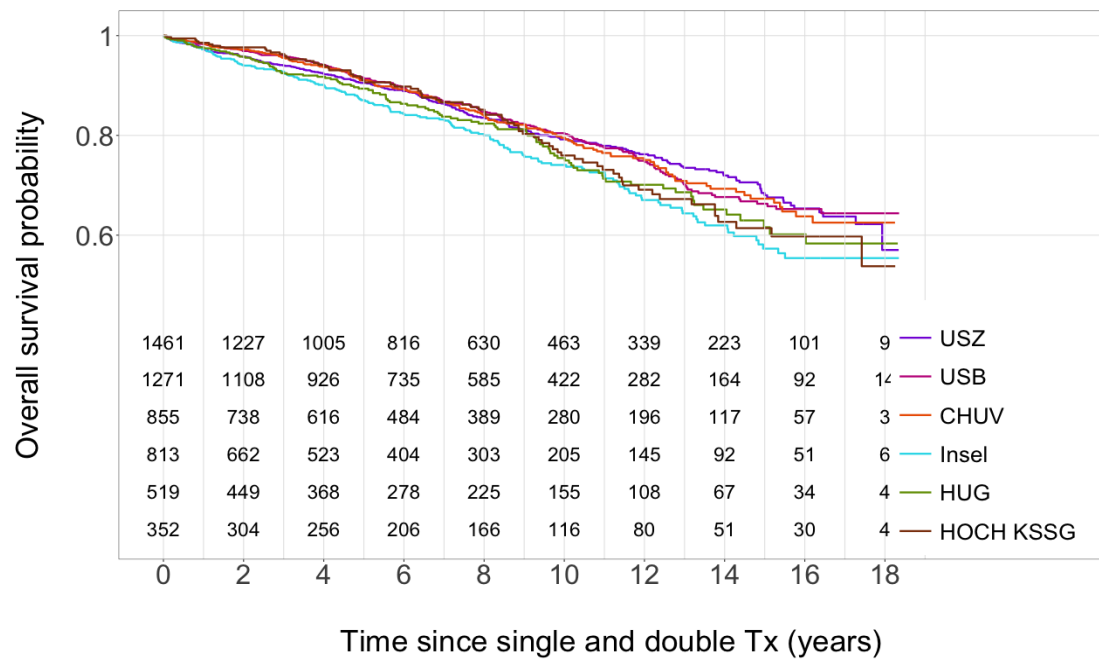


Figure 35: Graft failure free survival kidney Tx program by centre

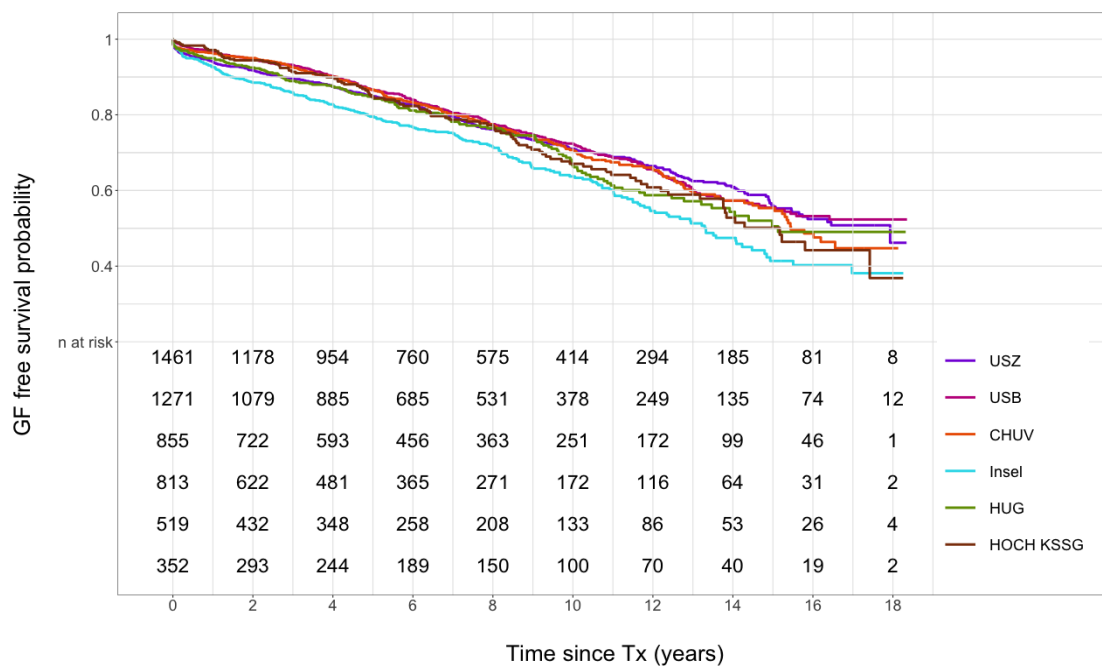


Figure 36: Patient survival by Tx program and centre

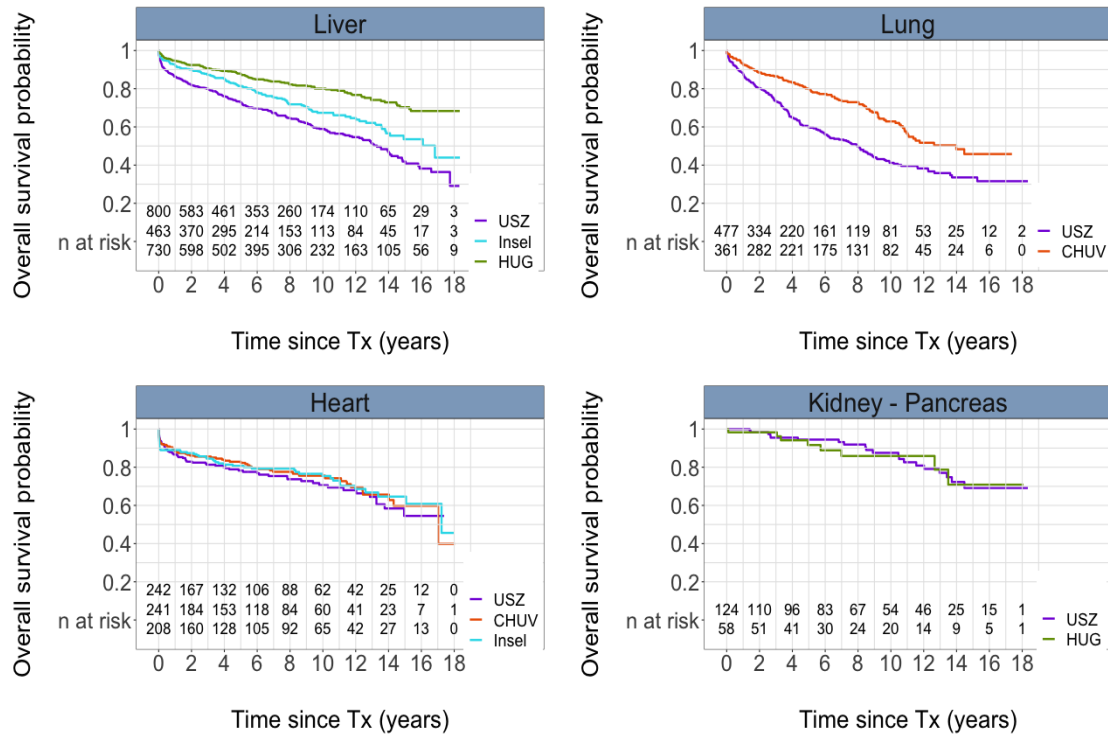
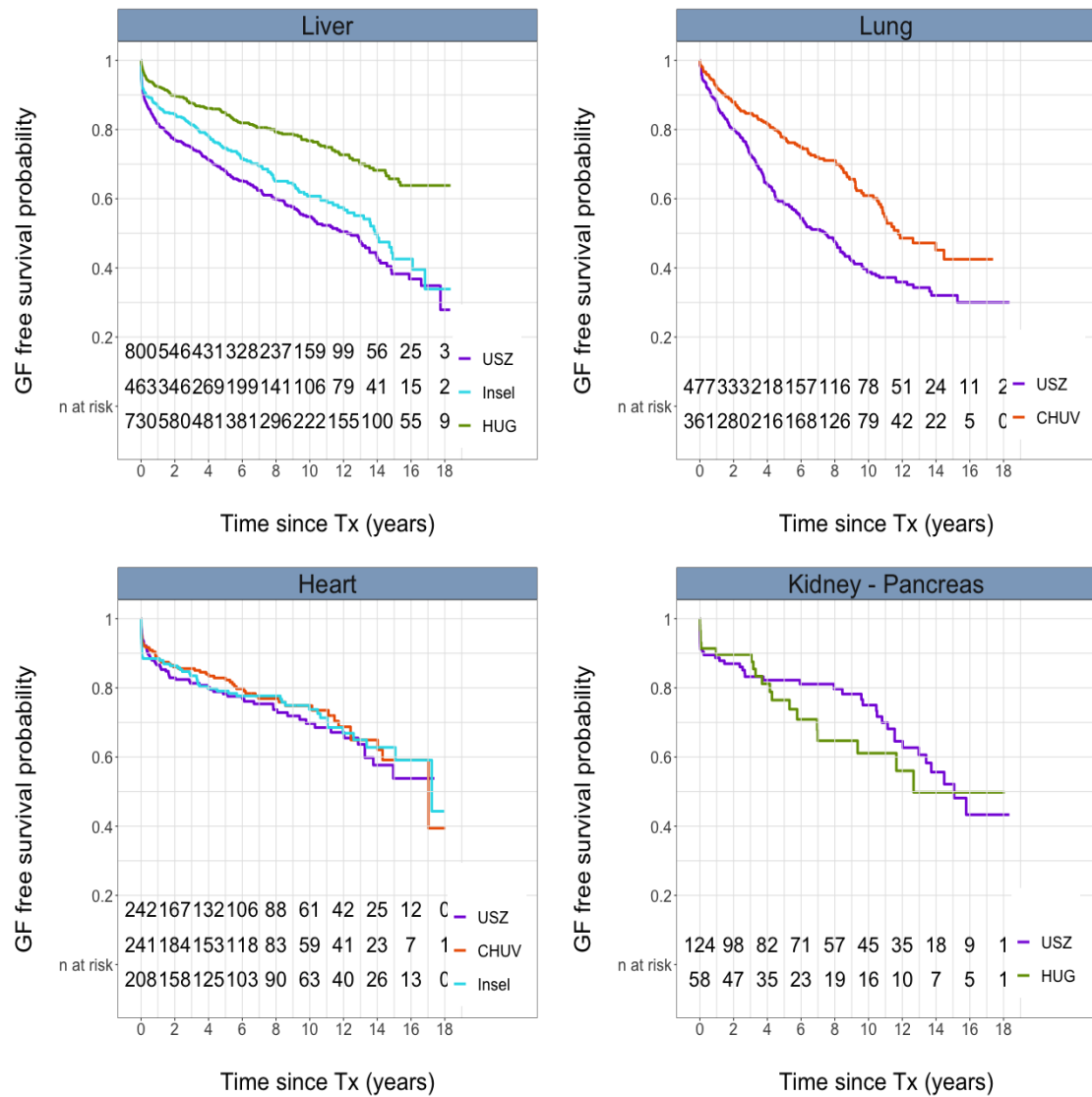


Figure 37: Re-transplantation free survival by centre



6 Cancer

Results regarding the incidence of cancer and skin cancer have to be considered with caution as data may be incomplete at the moment.

6.1 Cancer other than skin

Table 18: Overview of patients with incident cancer

	N	%
Total number of patients	9169	
Patients with incident cancer (other than skin)	1150	12.5
- single record (% of line 2)	852	74.1
- multiple records (% of line 2)	298	25.9

Table 19: Patients with incident cancer by Tx type

	Patients	Episodes	Median time (in yrs)*
Total	1150	1655	4.31
Kidney	591	814	4.88
Liver	357	574	3.49
Lung	105	140	3.86
Heart	53	74	5.86
Islets	6	6	5.13
Pancreas	2	3	7.79
Kidney - Pancreas	17	19	4.37
Kidney - Liver	9	13	5.58
Kidney - Islets	3	3	6.59
Kidney - Heart	3	3	3.94
Kidney - Lung	2	2	2.73
Pancreas - Small bowel	2	4	0.31

* Median time (in years) from first STCS transplantation to diagnosis of cancer
Remark: Patients are listed regarding the first STCS transplantation.

Table 20: Overview of incident cancer occurrence

	N	%
Total	1655	100.0%
Breast cancer	58	3.5%
Cancer of unknown primary origin	15	0.9%
Cervix - Uterus - Adnex	17	1.0%
Cholangiocarcinoma	6	0.4%
Colorectal cancer	45	2.7%
CTU	13	0.8%
Desmoid TU	0	0.0%
Esophageal cancer	10	0.6%
Gastric cancer	11	0.7%
HCC	21	1.3%
Head and neck cancer	17	1.0%
Kaposi	16	1.0%
Kidney cancer	87	5.3%
Leukemia	18	1.1%
Liver cancer	141	8.5%
Liver metastasis from CRC	1	0.1%
Lung cancer	199	12.0%
Myeloid neoplasm	19	1.1%
Myeloma	10	0.6%
Neuroendocrine TU	33	2.0%
Other liver cancer	1	0.1%
Other neoplasia	415	25.1%
Pancreas cancer	20	1.2%
Prostate cancer	136	8.2%
PTLD	201	12.1%
Sarkoma	16	1.0%
Testicular cancer	10	0.6%
Thyroid cancer	27	1.6%
Urothel/Bladder	92	5.6%

6.2 Skin cancer

Table 21: Overview of patients with incident skin cancer

	N	%
Total number of patients	9169	
Patients with incident skin cancer	1492	16.3
- single record (% of line 2)	700	46.9
- multiple records (% of line 2)	792	53.1

Table 22: Patients with incident skin cancer by Tx type

	Patients	Episodes	Median time (in yrs)*
Total	1492	4610	5.57
Heart	105	272	6.90
Islets	10	26	5.86
Kidney	971	3197	5.42
Kidney - Heart	6	17	4.93
Kidney - Islets	10	26	4.61
Kidney - Islets - Liver	1	5	11.59
Kidney - Liver	9	52	8.97
Kidney - Lung	1	1	1.39
Kidney - Pancreas	25	69	8.36
Liver	214	459	4.79
Liver - Lung	1	1	7.18
Lung	134	456	5.63
Pancreas	5	29	4.71

* Median time (in years) from first STCS transplantation to diagnosis of skin cancer
Remark: Patients are listed regarding the first STCS transplantation.

Table 23: Overview of incident skin cancer occurrence

	N	%
Total	4610	100.0%
Basalioma	1338	29.0%
Melanoma	146	3.2%
Other skin cancer	804	17.4%
Spinalioma	2322	50.4%

7 Specific Populations: Pediatric patients

Table 24: Number of pediatric patients (under 18) by first Tx type

	Total	USZ	%	USB	%	CHUV	%	Insel	%	HUG	%	HOCH KSSG	%
Total	419	134	32	9	2.1	50	11.9	68	16.2	154	36.8	4	1
Kidney	192	86	44.8	9	4.7	32	16.7	52	27.1	9	4.7	4	2.1
Liver	142	4	2.8	-	-	-	-	1	0.7	137	96.5	-	-
Lung	18	15	83.3	-	-	2	11.1	-	-	1	5.6	-	-
Heart	60	29	48.3	-	-	16	26.7	15	25	-	-	-	-
Kidney - Liver	6	-	-	-	-	-	-	-	-	6	100	-	-
Islets - Liver - Lung	1	-	-	-	-	-	-	-	-	1	100	-	-

Table 25: Number of Tx in pediatric patients by transplantation type and centre

	Total	USZ	%	USB	%	CHUV	%	Insel	%	HUG	%	HOCH KSSG	%
Total	463	148	32	12	2.6	59	12.7	74	16	166	35.9	4	0.9
Kidney	214	94	43.9	12	5.6	37	17.3	57	26.6	10	4.7	4	1.9
Liver	151	5	3.3	-	-	-	-	1	0.7	145	96	-	-
Lung	25	19	76	-	-	5	20	-	-	1	4	-	-
Heart	63	30	47.6	-	-	17	27	16	25.4	-	-	-	-
Kidney - Liver	7	-	-	-	-	-	-	-	-	7	100	-	-
Islets - Liver - Lung	1	-	-	-	-	-	-	-	-	1	100	-	-

Remark: Patients that are under 18 at baseline might be over 18 at the time of re or second transplantation.

A Overall mortality by transplantation type

Table 26: Overall mortality by Tx type

Tx	Time	Mortality (%)	95% CI	No at risk	Cum. deaths
Kidney	Baseline	0.0	-	5271	0
-	1 month	0.3	(0.2, 0.5)	5251	18
-	6 months	1.2	(0.9, 1.5)	5151	62
-	1 year	2.1	(1.8, 2.5)	4927	112
-	2 year(s)	3.9	(3.3, 4.4)	4488	195
-	4 year(s)	7.3	(6.6, 8)	3694	343
-	6 year(s)	11.8	(10.8, 12.7)	2923	506
-	8 year(s)	16.6	(15.4, 17.8)	2298	655
-	10 year(s)	21.8	(20.4, 23.2)	1641	780
-	12 year(s)	26.7	(25, 28.4)	1150	870
-	14 year(s)	32.3	(30.3, 34.2)	714	943
-	16 year(s)	37.2	(34.8, 39.5)	365	984
-	18 year(s)	40.2	(36.7, 43.5)	40	992
-	Overall	40.2	(36.7, 43.5)	-	992
Liver	Baseline	0.0	-	1993	0
-	1 month	3.4	(2.6, 4.1)	1925	67
-	6 months	7.0	(5.9, 8.1)	1832	140
-	1 year	9.1	(7.9, 10.4)	1733	181
-	2 year(s)	12.3	(10.8, 13.7)	1551	239
-	4 year(s)	17.0	(15.3, 18.7)	1258	316
-	6 year(s)	22.7	(20.7, 24.7)	962	395
-	8 year(s)	27.3	(25, 29.5)	719	445
-	10 year(s)	31.3	(28.7, 33.7)	519	479
-	12 year(s)	34.8	(32, 37.5)	357	502
-	14 year(s)	41.1	(37.6, 44.3)	215	530
-	16 year(s)	46.8	(42.6, 50.7)	102	546
-	18 year(s)	51.1	(44.7, 56.8)	15	550
-	Overall	51.1	(44.7, 56.8)	-	550
Lung	Baseline	0.0	-	840	0
-	1 month	2.5	(1.4, 3.6)	819	21
-	6 months	6.4	(4.8, 8.1)	778	54
-	1 year	10.1	(8.1, 12.2)	716	84
-	2 year(s)	16.2	(13.6, 18.7)	617	131
-	4 year(s)	27.3	(23.9, 30.4)	442	204
-	6 year(s)	34.7	(31, 38.2)	337	246
-	8 year(s)	40.2	(36.2, 44)	251	272
-	10 year(s)	49.4	(44.9, 53.5)	164	307
-	12 year(s)	55.6	(50.7, 60.1)	99	324
-	14 year(s)	59.9	(54.3, 64.8)	50	331
-	16 year(s)	62.2	(55.8, 67.7)	19	333
-	18 year(s)	62.2	(55.8, 67.7)	2	333
-	Overall	62.2	(55.8, 67.7)	-	333
Heart	Baseline	0.0	-	691	0
-	1 month	7.7	(5.7, 9.6)	638	53
-	6 months	10.1	(7.9, 12.4)	611	70
-	1 year	12.1	(9.6, 14.5)	576	83
-	2 year(s)	14.6	(11.9, 17.3)	511	99
-	4 year(s)	18.3	(15.3, 21.3)	413	119
-	6 year(s)	21.4	(18, 24.6)	329	133
-	8 year(s)	23.2	(19.6, 26.6)	264	140
-	10 year(s)	26.2	(22.3, 30)	187	149

Tx	Time	Mortality (%)	95% CI	No at risk	Cum. deaths
-	12 year(s)	31.4	(26.5, 35.8)	125	160
-	14 year(s)	37.3	(31.4, 42.7)	75	169
-	16 year(s)	41.8	(34.5, 48.3)	32	173
-	18 year(s)	53.0	(34.8, 66.1)	1	175
-	Overall	53.0	(34.8, 66.1)	-	175
Kidney - Pancreas	Baseline	0.0	-	182	0
-	1 month	0.0	-	182	0
-	6 months	0.6	(0, 1.6)	179	1
-	1 year	0.6	(0, 1.6)	175	1
-	2 year(s)	1.7	(0, 3.6)	161	3
-	4 year(s)	5.0	(1.5, 8.3)	137	8
-	6 year(s)	7.2	(3, 11.3)	113	11
-	8 year(s)	9.9	(4.8, 14.8)	91	14
-	10 year(s)	13.1	(6.9, 18.9)	74	17
-	12 year(s)	18.1	(10.4, 25.2)	60	21
-	14 year(s)	28.2	(17.5, 37.6)	34	27
-	16 year(s)	30.5	(19, 40.4)	20	28
-	18 year(s)	30.5	(19, 40.4)	2	28
-	Overall	30.5	(19, 40.4)	-	28

B Overall mortality in patients with rare Tx scenarios

Table 27: Overall mortality by rare Tx scenarios

Tx	Time	Mortality (%)	95% CI	No at risk	Cum. deaths
Islets	Baseline	0.00	-	41	0
-	Overall	48.01	(27.9, 62.5)	-	17
Pancreas	Baseline	0.00	-	15	0
-	Overall	38.64	(0.1, 62.3)	-	4
Small bowel	Baseline	0.00	-	2	0
-	Overall	50.00	(0, 87.5)	-	1
Kidney - Liver	Baseline	0.00	-	74	0
-	Overall	70.16	(20.9, 88.7)	-	21
Kidney - Islets	Baseline	0.00	-	29	0
-	Overall	63.99	(14.9, 84.8)	-	8
Kidney - Heart	Baseline	0.00	-	16	0
-	Overall	50.00	(0, 78.6)	-	5
Kidney - Lung	Baseline	0.00	-	2	0
-	Overall	0.00	-	-	0
Liver - Lung	Baseline	0.00	-	4	0
-	Overall	50.00	(0, 81.2)	-	2
Liver - Pancreas	Baseline	0.00	-	1	0
-	Overall	0.00	-	-	0
Heart - Lung	Baseline	0.00	-	1	0
-	Overall	100.00	-	-	1
Islets - Liver	Baseline	0.00	-	1	0
-	Overall	0.00	-	-	0
Pancreas - Small bowel	Baseline	0.00	-	3	0
-	Overall	66.67	(0, 93.3)	-	2
Kidney - Islets - Liver	Baseline	0.00	-	1	0
-	Overall	0.00	-	-	0
Liver - Pancreas - Small bowel	Baseline	0.00	-	1	0
-	Overall	100.00	-	-	1
Islets - Liver - Lung	Baseline	0.00	-	1	0
-	Overall	0.00	-	-	0

C Overall mortality in first kidney transplantation

Table 28: Overall mortality in (single) kidney recipients by donor type

Donor type	Time	Mortality (%)	95% CI	No at risk	Cum. deaths
Deceased	Baseline	0.0	-	3368	0
-	1 month	0.5	(0.3, 0.7)	3350	17
-	6 months	1.5	(1.1, 1.9)	3277	51
-	1 year	2.7	(2.2, 3.3)	3112	91
-	2 year(s)	4.8	(4.1, 5.6)	2789	155
-	4 year(s)	9.5	(8.5, 10.6)	2236	281
-	6 year(s)	15.0	(13.7, 16.4)	1713	405
-	8 year(s)	21.2	(19.5, 22.8)	1309	518
-	10 year(s)	27.2	(25.2, 29.2)	905	606
-	12 year(s)	32.2	(29.9, 34.4)	623	659
-	14 year(s)	38.6	(35.9, 41.2)	387	709
-	16 year(s)	44.4	(41.2, 47.5)	188	738
-	18 year(s)	48.1	(42.9, 52.8)	23	742
-	Overall	48.1	(42.9, 52.8)	-	742
Living	Baseline	0.0	-	1903	0
-	1 month	0.1	(0, 0.2)	1901	1
-	6 months	0.6	(0.2, 0.9)	1874	11
-	1 year	1.1	(0.6, 1.6)	1815	21
-	2 year(s)	2.2	(1.5, 2.8)	1699	40
-	4 year(s)	3.5	(2.7, 4.4)	1458	62
-	6 year(s)	6.3	(5.1, 7.5)	1210	101
-	8 year(s)	9.3	(7.8, 10.8)	989	137
-	10 year(s)	13.1	(11.2, 15)	736	174
-	12 year(s)	18.1	(15.7, 20.4)	527	211
-	14 year(s)	22.5	(19.6, 25.3)	327	234
-	16 year(s)	26.1	(22.7, 29.4)	177	246
-	18 year(s)	28.0	(24.2, 31.7)	17	250
-	Overall	28.0	(24.2, 31.7)	-	250

D Graft failure by organ, centre and donortype

Table 29: Graft failure by organ

Organ	Time	CumInc (%)	95% CI	No at risk	Cum. GF	Cum. deaths
Kidney	Baseline	-	-	5828		0
-	1 month	1.8	(1.5,2.2)	5708		14
-	6 months	3	(2.5,3.4)	5545		51
-	1 year	3.4	(3,3.9)	5275		99
-	2 year(s)	4.4	(3.9,4.9)	4747		173
-	4 year(s)	6.3	(5.7,7)	3845		299
-	6 year(s)	8.8	(8,9.6)	2964		441
-	8 year(s)	10.5	(9.7,11.5)	2285		577
-	10 year(s)	13	(11.9,14.1)	1572		690
-	12 year(s)	15.3	(14.1,16.5)	1072		771
-	14 year(s)	17	(15.6,18.4)	622		846
-	16 year(s)	19.4	(17.7,21.1)	298		887
-	18 year(s)	20.1	(18.3,22)	33		894
-	Overall	20.1	(18.3,22)	0		894
Liver	Baseline	-	-	2281		0
-	1 month	5.4	(4.5,6.4)	2119		38
-	6 months	7.8	(6.8,9)	1981		100
-	1 year	9.2	(8,10.4)	1857		129
-	2 year(s)	10.3	(9.1,11.6)	1657		175
-	4 year(s)	12.1	(10.7,13.5)	1325		241
-	6 year(s)	13	(11.6,14.4)	1009		313
-	8 year(s)	13.6	(12.2,15.2)	743		364
-	10 year(s)	14.5	(12.9,16.1)	529		394
-	12 year(s)	15.3	(13.6,17)	358		416
-	14 year(s)	15.7	(14,17.5)	213		445
-	16 year(s)	17	(14.9,19.3)	102		459
-	18 year(s)	17	(14.9,19.3)	15		464
-	Overall	17	(14.9,19.3)	0		464
Lung	Baseline	-	-	886		0
-	1 month	0.9	(0.4,1.7)	861		17
-	6 months	2.1	(1.3,3.3)	816		42
-	1 year	4.1	(2.9,5.6)	747		60
-	2 year(s)	7.1	(5.5,9)	642		86
-	4 year(s)	13.7	(11.4,16.3)	448		123
-	6 year(s)	17.8	(15,20.7)	338		148
-	8 year(s)	20.5	(17.5,23.7)	250		163
-	10 year(s)	23	(19.7,26.4)	164		189
-	12 year(s)	24.4	(20.9,28)	99		203
-	14 year(s)	25.7	(21.9,29.7)	48		208
-	16 year(s)	25.7	(21.9,29.7)	18		210
-	18 year(s)	25.7	(21.9,29.7)	2		210
-	Overall	25.7	(21.9,29.7)	0		210
Heart	Baseline	-	-	715		0
-	1 month	5	(3.6,6.8)	658		21

Organ	Time	CumInc (%)	95% CI	No at risk	Cum. GF	Cum. deaths
-	6 months	5.7	(4.2,7.6)	630		34
-	1 year	6	(4.4,7.9)	594		46
-	2 year(s)	6.8	(5.1,8.8)	527		59
-	4 year(s)	7.3	(5.6,9.5)	426		78
-	6 year(s)	8.2	(6.3,10.5)	339		88
-	8 year(s)	9.2	(7.1,11.7)	271		92
-	10 year(s)	9.9	(7.6,12.5)	187		100
-	12 year(s)	9.9	(7.6,12.5)	127		111
-	14 year(s)	9.9	(7.6,12.5)	76		121
-	16 year(s)	9.9	(7.6,12.5)	33		125
-	18 year(s)	9.9	(7.6,12.5)	2		127
-	Overall	9.9	(7.6,12.5)	0		127
Pancreas	Baseline	-	-	220		0
-	1 month	8.6	(5.4,12.8)	200		1
-	6 months	9.5	(6.1,13.9)	196		1
-	1 year	10.5	(6.9,15)	190		1
-	2 year(s)	12.9	(8.8,17.7)	173		2
-	4 year(s)	14.5	(10.2,19.6)	145		7
-	6 year(s)	15.8	(11.2,21.1)	116		9
-	8 year(s)	18.1	(13,23.9)	92		10
-	10 year(s)	19	(13.6,25)	73		13
-	12 year(s)	23.5	(17,30.7)	52		18
-	14 year(s)	23.5	(17,30.7)	30		23
-	16 year(s)	23.5	(17,30.7)	19		23
-	18 year(s)	23.5	(17,30.7)	2		23
-	Overall	23.5	(17,30.7)	0		23

Table 30: Graft failure of kidneys (in first STCS single Tx) by donor type

Donor type	Time	CumInc (%)	95% CI	No at risk	Cum. GF	Cum. deaths
Deceased	Baseline	-	-	3563	0	0
-	1 month	2.2	(1.8,2.7)	3475	79	9
-	6 months	3.8	(3.2,4.4)	3353	134	36
-	1 year	4.5	(3.8,5.2)	3156	158	75
-	2 year(s)	5.7	(5,6.5)	2774	200	129
-	4 year(s)	8.4	(7.4,9.3)	2167	273	233
-	6 year(s)	11.3	(10.2,12.5)	1607	342	336
-	8 year(s)	13.1	(11.9,14.4)	1200	378	434
-	10 year(s)	15.6	(14.2,17.1)	790	414	508
-	12 year(s)	18.2	(16.5,19.9)	520	442	553
-	14 year(s)	20.6	(18.6,22.6)	295	461	598
-	16 year(s)	22.4	(20.1,24.7)	129	469	625
-	18 year(s)	23.7	(21,26.5)	14	472	628
-	Overall	23.7	(21,26.5)	0	472	628
Living	Baseline	-	-	1949	0	0
-	1 month	0.9	(0.6,1.4)	1929	18	1
-	6 months	1.5	(1,2.1)	1895	29	8
-	1 year	1.7	(1.2,2.3)	1830	33	17
-	2 year(s)	2.1	(1.6,2.9)	1707	41	32
-	4 year(s)	3.1	(2.3,3.9)	1452	56	47
-	6 year(s)	4.8	(3.9,5.9)	1175	81	81
-	8 year(s)	6.5	(5.3,7.8)	942	101	113
-	10 year(s)	8.4	(7,10)	683	120	146
-	12 year(s)	10.4	(8.7,12.2)	478	135	177
-	14 year(s)	11.4	(9.5,13.5)	286	140	198
-	16 year(s)	14.2	(11.7,16.9)	148	149	209
-	18 year(s)	14.2	(11.7,16.9)	15	149	212
-	Overall	14.2	(11.7,16.9)	0	149	212

E Technical summary

All analyses were performed using the statistical software R version 4.3.2 (2023-10-31). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.