

Victorian Liver Transplant Unit

Annual Report 2019-2020



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Preface

The Victorian Liver Transplant Unit (VLTU) provides adult liver transplant services for all of Victoria and Tasmania and is currently the sole provider of intestinal transplant services in Australia. The VLTU provides the surgical team and physicians for all paediatric liver transplants performed at the Royal Children's Hospital (RCH). The paediatric service is a Nationally Funded Centre, so patients are referred from a wider geographic area.

The VLTU was established in 1988, performing 4 liver transplants in its first year. In 2019/2020, a total of 87 transplants were performed.

The unit seeks to be renowned for excellence and leadership in healthcare and education.

The VLTU provides a referral, assessment and transplantation service for patients with hepatocellular carcinoma and/or end stage liver disease. A multidisciplinary team that includes surgeons, hepatologists, allied health and nursing staff manages each patient's journey. In addition to a 24/7 liver transplant coordination service, the Transplant Unit provides long-term follow-up care for patients following their liver transplant.

The last 30 years has seen a dramatic change in many aspects of liver transplantation. One aspect important to emphasize is the change in recipient suitability. Patients who would not have been suitable in the 1980s or 1990s because of age or medical capabilities are now very commonly referred to and accepted for liver transplantation. This includes patients well into their 60s and even occasionally into the 70s and patients with underlying medical comorbidities such as diabetes, heart disease and obesity. If referring physicians have concerns regarding patient suitability please either refer your patient for assessment for transplantation or have a telephone consultation with one of the liver transplant physicians.

Report Purpose

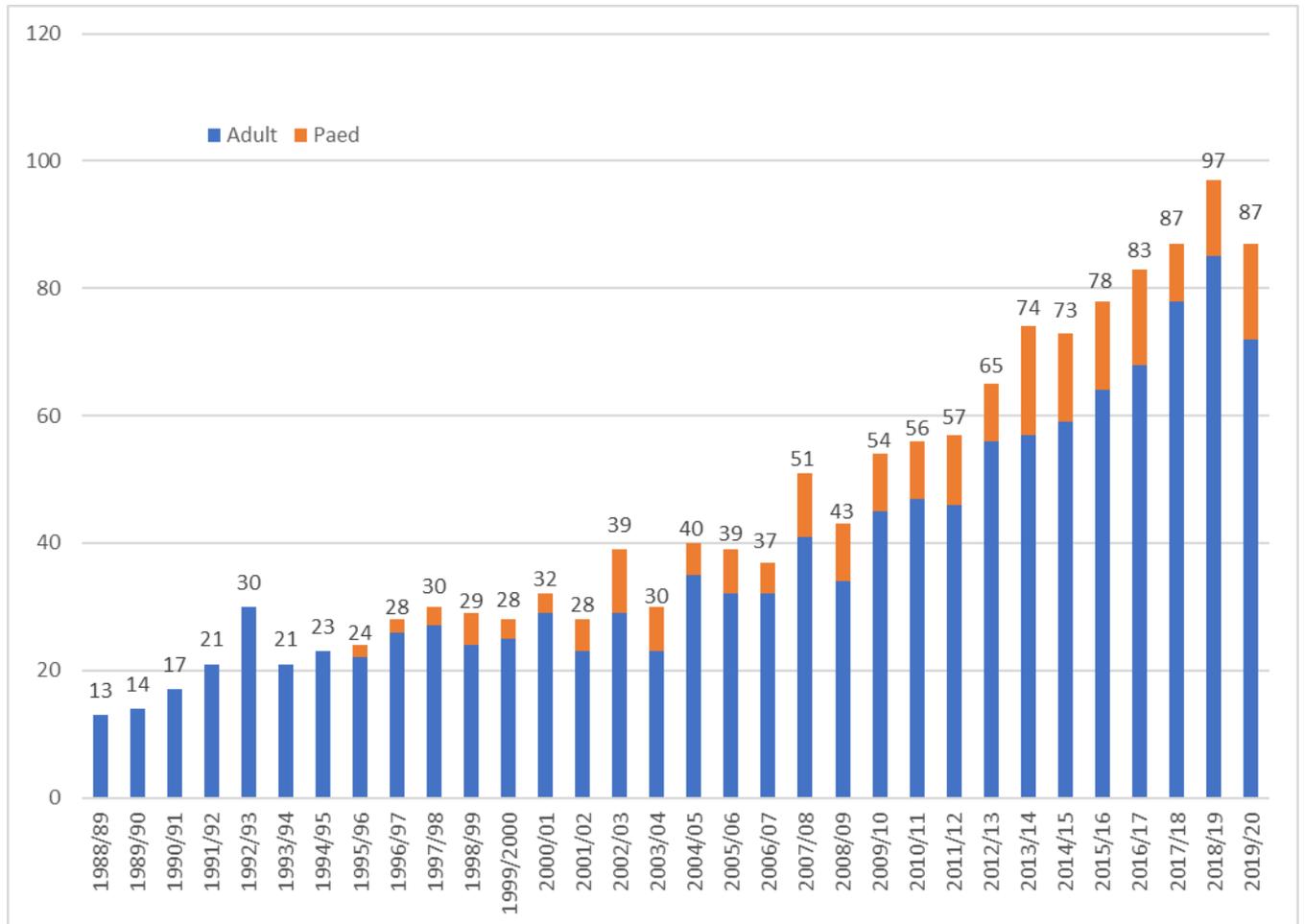
This report has been developed to provide referring physicians with an update on 2019/20 activity and current outcome data.

2019/20 Summary

- In 2019/20, the VLTU performed 87 transplants. This is the equal second-largest ever number of transplants performed per financial year. 72 adult transplants were performed at Austin Health and 15 transplants were performed at RCH. This was a slight drop in activity from the prior year, where a total of 97 transplants were performed (85 adult; 12 paediatric).
- In 2019/20, one intestinal transplant was performed. This was on a paediatric patient, who received an isolated intestinal transplant.
- The number of transplants performed continues to be limited by the number of suitable donor organs available.
- The majority of transplants performed are from brain dead (BD) donors, but we continue to be referred growing numbers of 'Donation after Circulatory Death' (DCD) donors. The rate of DCD referral is increasing faster than growth of actual DCD liver donors.
- In 2019/20, Austin acquired an *OrganOx Metra* ex situ normothermic perfusion device. A total of 5 donor livers were perfused in the period December 2019 – June 2020, resulting in 3 transplants. Two grafts remain ongoing.
- The COVID-19 pandemic was declared in March 2020. The greatest impact on the unit was a reduction in donor and retrieval numbers, in particular renal-only retrievals (renal transplant program temporarily suspended during the first wave).
- Split grafts continue to make a significant contribution to the number of paediatric transplants performed. In 2019/20, 7 paediatric liver transplants (50%) were performed using a split graft.
- In 2019/20 the unit did not perform any living-related donor transplants.
- In 2019/20; 4 patients underwent re-transplant for primary graft non-function. This was a reduction from the year prior (6 patients).
- The LTU continues to achieve excellent patient survival results.

Total Transplant Activity

Total Transplant Activity per Financial Year – Adult and Paediatric

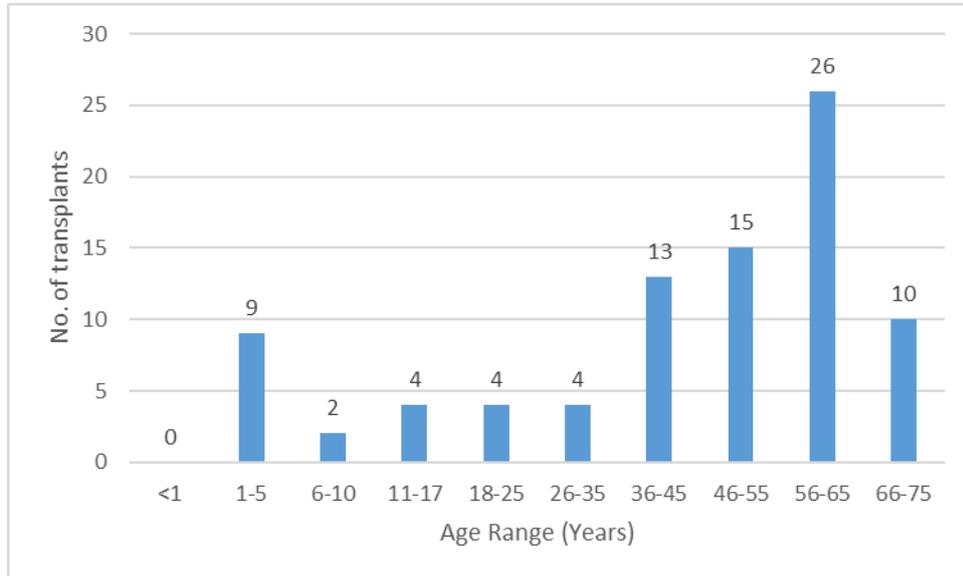


2019/20 Activity Summary

Item	Number
Total Transplants	87
Adult Transplants	72
Paediatric Transplants	15

2019/20 Transplant Activity and Patient Demographics

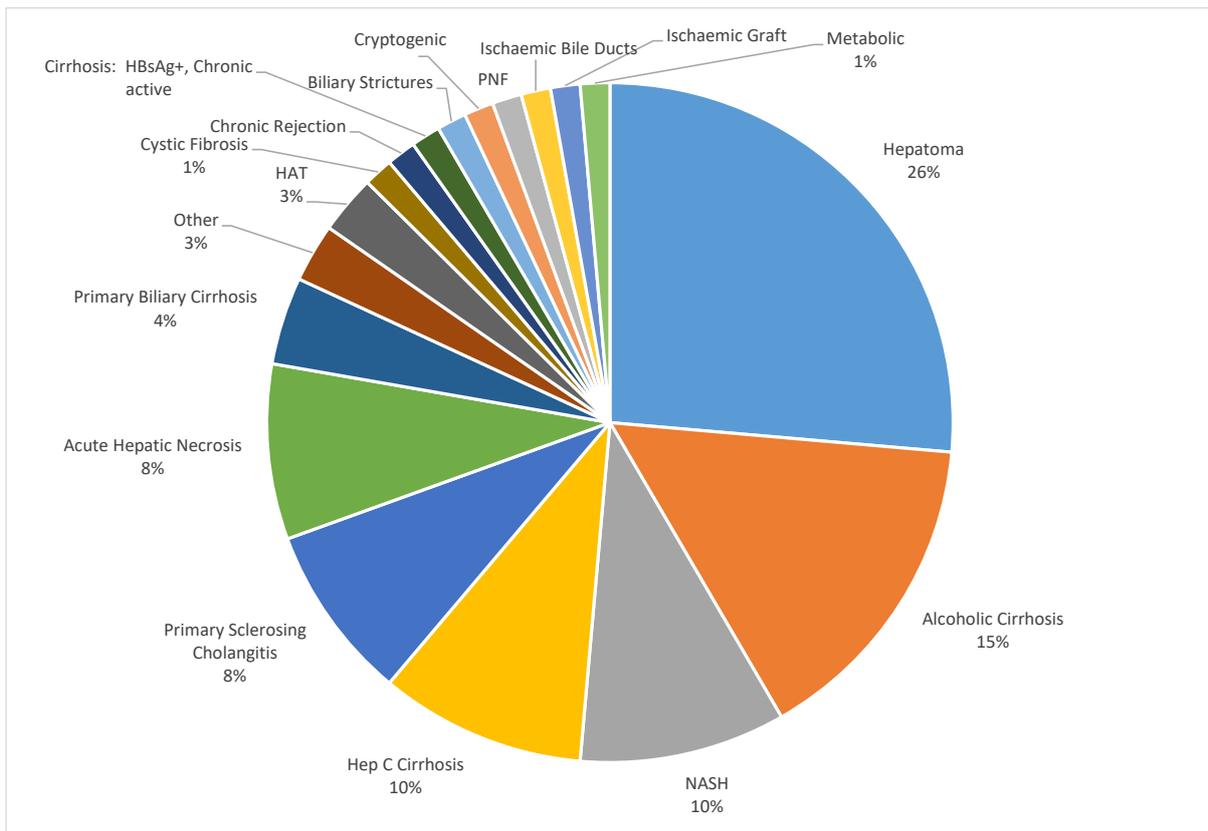
Age of Transplant Recipients in 2019/20 (n=87)



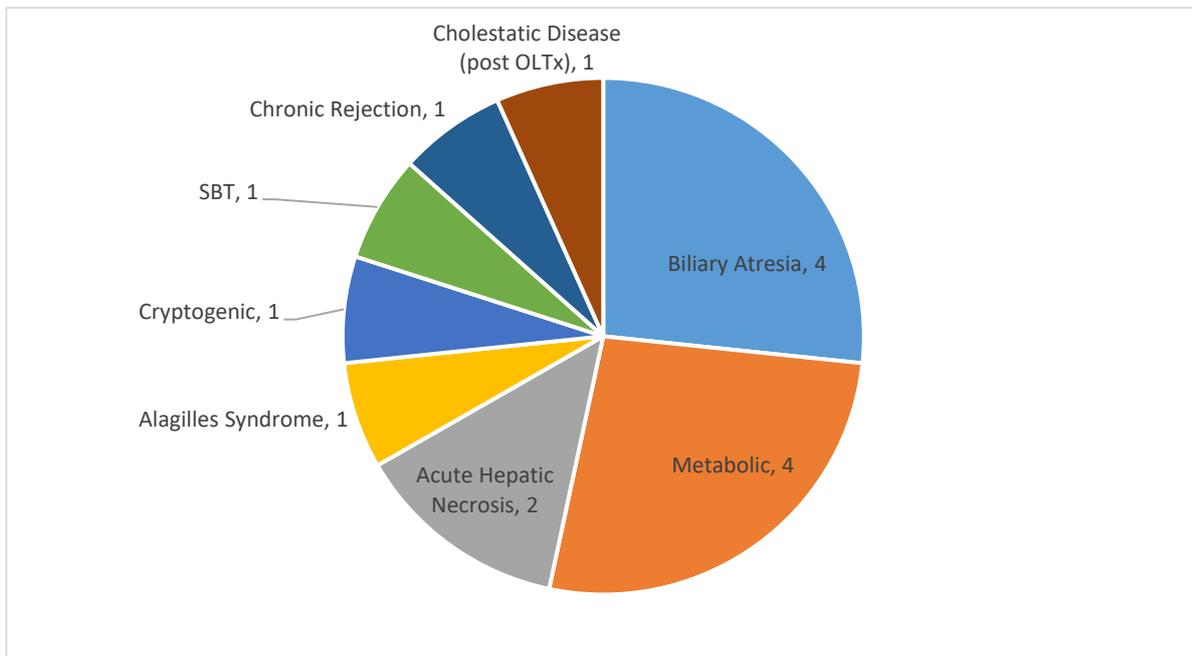
The mean age of adults transplanted in 2019/20 was 53 years, and the median age was 56 years. This is comparable to prior years.

The mean age of children transplanted in 2019/20 was 6 years, and the median age was 2 years.

Primary Indication for Transplant – Adults (n=72)



Primary Indication for Transplant – Children (n=15)



Type of Liver Donors

	Deceased Donor		Living Related Donor
	Braindead (BD)	Donation after Circulatory Death (DCD)	
Adult Transplants	68	4	0
Paediatric Transplants	14	1	0

Type of Liver Donor Grafts

	Split Graft	Reduced Graft	Whole Graft
Adult Transplants	7	0	65
Paediatric Transplants	7	1	6*

* Excludes whole graft for paediatric isolated intestine transplant

2019/20 Referrals and Activation on the Waiting List

Number of Appointments in Pre-Transplant and Hepatocellular Carcinoma (HCC) Clinic

	New	Review
Pre-Transplant Clinic	207	1,963
HCC	151	479

Number of Patients* Referred and Activated on the Waiting List in 2019/20

	Referred for Work-Up	Activated on Waiting List
Adult \geq 18	103	81
Child < 18	12	10

* Each patient included as a single count (if multiple referrals/activations)

Waiting List Numbers

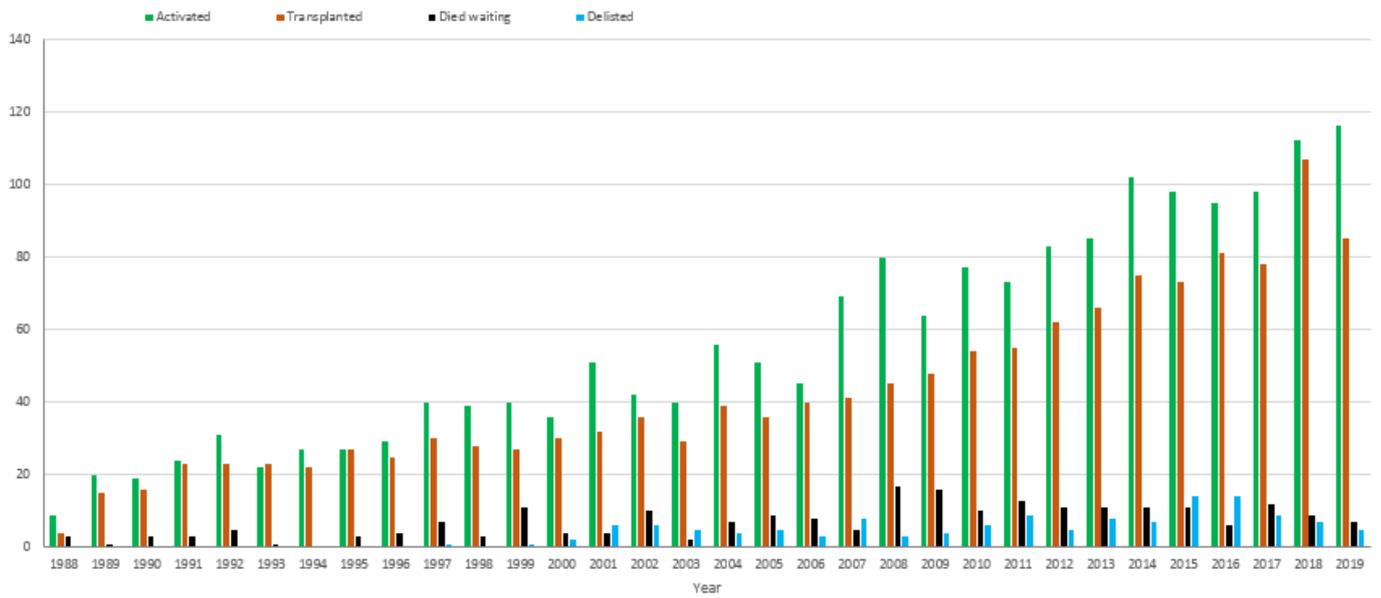
The following table lists the number of adults and children on the liver transplant waiting list at various timepoints*:

Date	Adults Waiting	Children Waiting	Total Waiting
30 June 2017	48	7	55
30 June 2018	31	7	38
30 June 2019	42	7	49
30 June 2020	60	2	62

* Includes 'active' and 'active on hold' patients

- There has been a notable decrease in the size of the paediatric waiting list and large variations in the adult waiting list.
- Recently, growth in numbers of patients activated onto the list has not been matched by growth in transplant numbers, resulting in a growth in the waiting list.
- The large number of transplants in calendar year 2018 (98 adult, 9 paediatric) resulted in a notable reduction in the waiting list at the corresponding period.

Liver Transplant Waiting List Trends



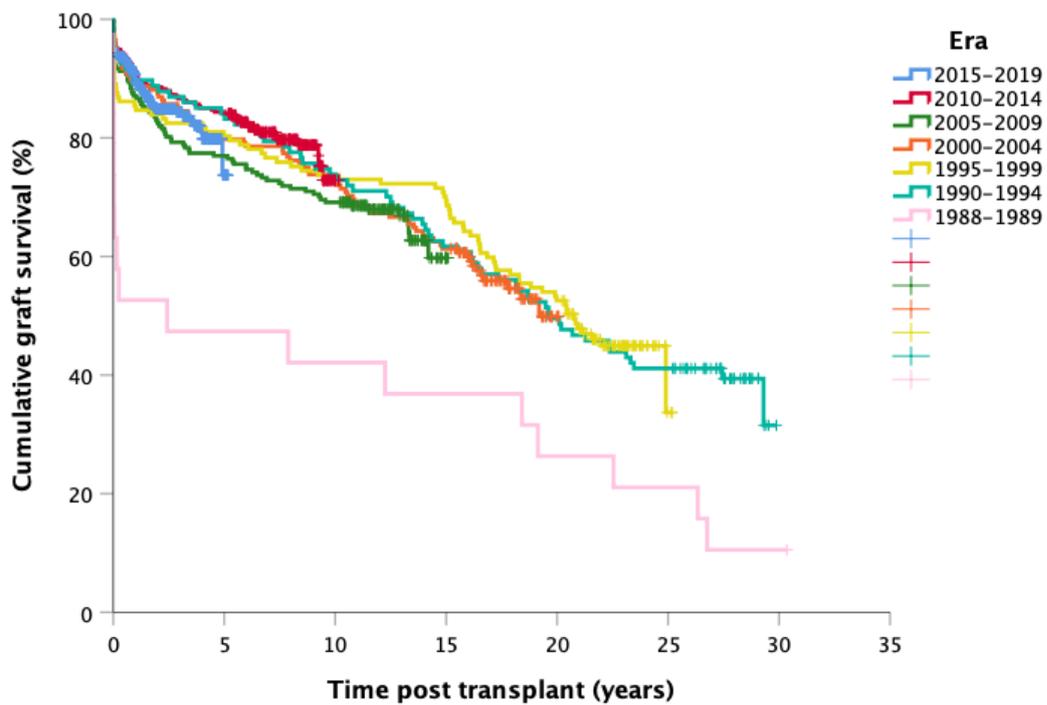
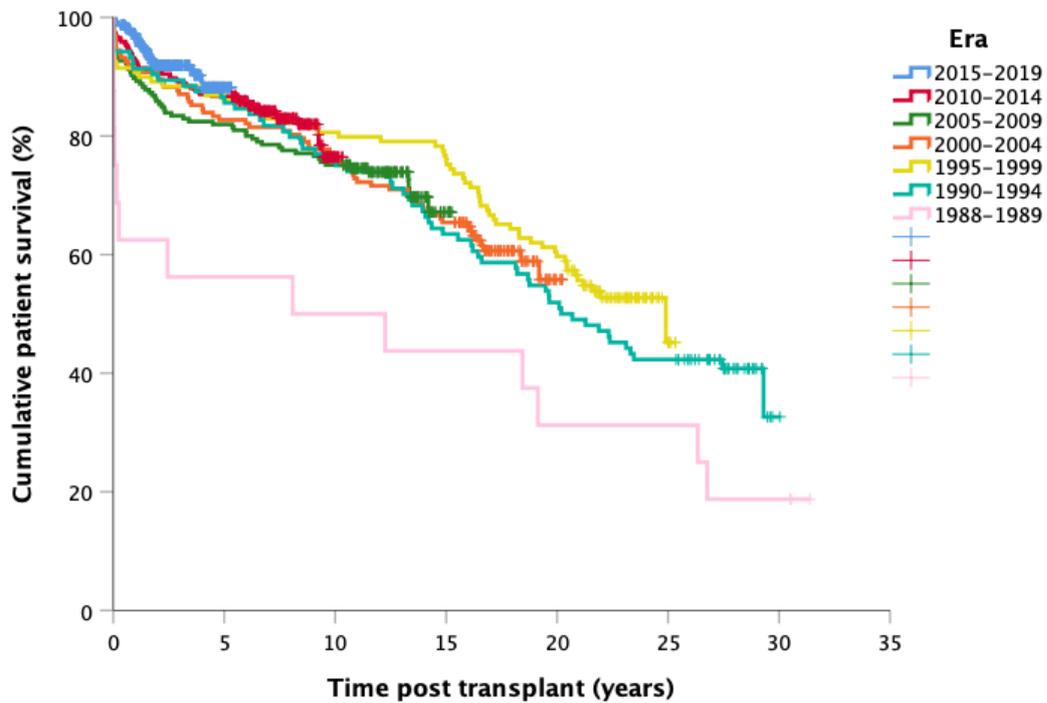
2019/20 Waiting Times

The waiting times in days for all patients transplanted during 2019/20 were as follows:

Waiting Time (days)	Mean	Median
Adults ≥ 18 (n=72)	177 days	99 days
Children < 18 (n=15)	231 days	127 days

Outcome Data

The LTU achieves outstanding outcomes, which can be demonstrated by our patient and graft survival rates.



Patient and Graft Survival Data – International benchmarking



Time period	Patient survival ¹		Graft survival ¹	
	VLTU	ANZ ²	VLTU	ANZ ²
N	1,292	6,121	1,385	6,627
1 year	93%	91%	89%	87%
5 years	86%	83%	81%	78%
10 years	78%	75%	73%	69%
20 years	56%	56%	50%	50%
30 years	38%	45%	32%	39%

¹All transplants to 2019

²www3.anzltr.org (in preparation)



Time period	Patient survival ¹		Graft survival ¹	
	VLTU	USA ²	VLTU	USA ²
N	390	?	417	49,955
1 year	92%	91%	90%	89%
3 years	88%	83%	85%	80%
5 years	86%	75%	83%	72%

¹Deceased donor transplants performed 2008-2015

²optn.org



Time period	Patient survival ¹		Graft survival ¹	
	VLTU	Japan ²	VLTU	Japan ²
N	1,157	?	1,231	447
1 year	92%	89%	89%	88%
5 years	86%	82%	81%	82%
10 years	79%	75%	73%	74%

¹Deceased donor transplants to 2017

²jts.umin.ac.jp



Time period	Patient survival ¹		Graft survival ¹	
	VLTU	Korea ²	VLTU	Korea ²
N	374	?	411	447
1 year	96%	84%	90%	83%
4 years	88%	78%	82%	74%

¹Deceased donor transplants performed 2014-2018

²kotry.org; 2018 report



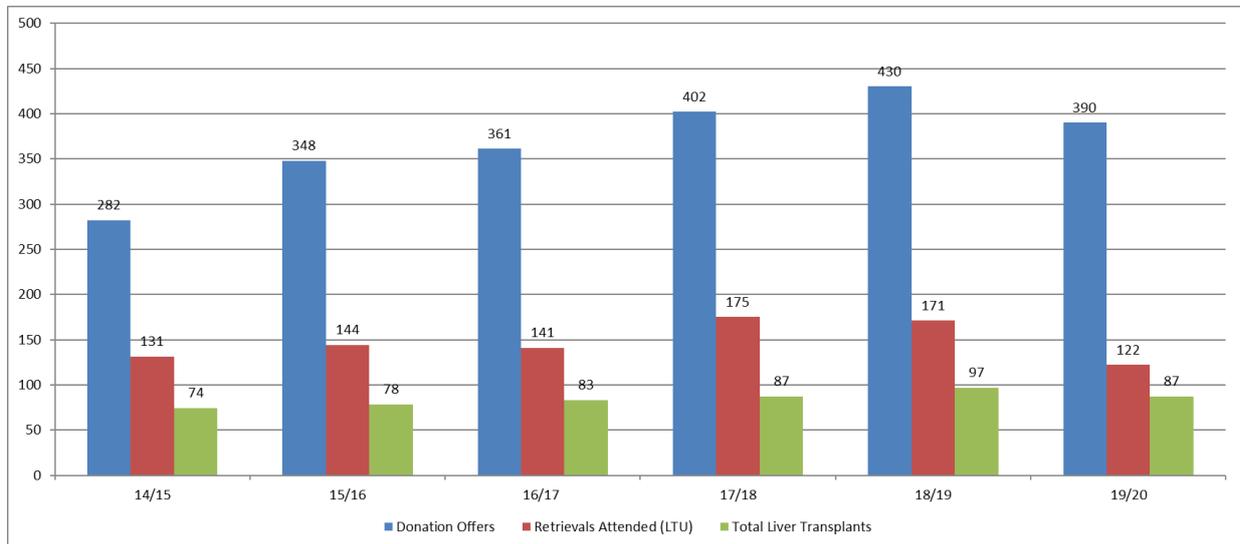
Time period	Patient survival ¹		Graft survival ¹	
	VLTU	Europe ²	VLTU	Europe ²
N	1,015	108,670	1,015	120,314
1 year	92%	84%	89%	79%
5 years	85%	73%	82%	66%
10 years	78%	62%	74%	55%
20 years	56%	42%	52%	36%

¹First transplant 1988-2015

²eltr.org

Donor/Retrieval Activity

- The below graph shows the trend in donor offers, retrievals attended and transplants performed.
- The retrievals attended includes Austin attendance at renal-only retrievals.



Contact Us

For more information, our contact details are as follows:

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