

## **NHS BLOOD AND TRANSPLANT**

### **LIVER ADVISORY GROUP**

#### **NATIONAL OFFERING SCHEME - PARALLEL RUN ANALYSIS**

##### **INTRODUCTION**

- 1 A national offering scheme for DBD and DCD livers to adult elective patients has been agreed by LAG subject to review of a parallel evaluation of the proposed arrangements vs. current arrangements.
- 2 Consideration has been given to how a parallel evaluation could work given the risks of making hypothetical offers real time. It was felt that donor livers transplanted into elective adult patients could be compared against the active waiting list on a weekly basis to identify the highest ranked patient based on the transplant benefit allocation proposal. This would be a good approximation to real time, with a waiting list that is at most 7 days out of date.

##### **EVALUATION OF PARALLEL RUNNING**

- 3 In order for LAG members to consider how such parallel running might be used to assess the performance of the agreed scheme, this paper reports on the parallel running over one week of the current allocation scheme against the transplant benefit scheme as described above. This example includes deceased donors from 1 - 7 October 2015 and 'allocates them' to elective adult patients on the active liver transplant list as at 1 October 2015 based on the new principles (transplant benefit).
- 4 Between 1 and 7 October 2015, there were fourteen deceased liver donors which resulted in adult recipient elective liver only transplantation. On 1 October 2015 there were 534 adult elective patients on the active liver only transplant list.

- 5     **Table 1** shows donor and recipient characteristics for the actual donors and elective adult recipients in the first week of October alongside the characteristics of the patient with the greatest transplant benefit from that donor from the waiting list on 1 October, ie the proposed recipient under the new scheme.

**ACTION**

- 6     The results from one week of parallel evaluation are shown so that members can agree what additional information is required and how results should be presented for a longer evaluation period.

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**Table 1 Donor and recipient characteristics for liver deceased donor transplants, 1 - 7 October 2015, showing actual recipients and proposed recipients under the transplant benefit scheme**

Donor				Recipient	
				Actual recipient	New scheme recipient
1	Age	21	Age	64	63
	Zone	D	Centre	D	C
	Type	DCD	UKELD	58	64
	BMI	31.1	Diagnosis	Non-alcoholic fatty liver disease	Alcoholic liver disease
			Travel distance (minutes)	39	86
			Transplant benefit (days)	465.8	1527.7
			Waiting time (days)	63	129
2	Age	61	Age	64	60
	Zone	E	Centre	E	A
	Type	DCD	UKELD	49	58
	BMI	24.5	Diagnosis	Cryptogenic cirrhosis	Alcoholic liver disease
			Travel distance (minutes)	120	344
			Transplant benefit (days)	388.9	1522.2
			Waiting time (days)	170	59
3	Age	35	Age	68	73
	Zone	C	Centre	C	A
	Type	DBD	UKELD	54	59
	BMI	22	Diagnosis	Primary sclerosing cholangitis	Primary sclerosing cholangitis
			Travel distance (minutes)	77	299
			Transplant benefit (days)	1141.1	1465.9
			Waiting time (days)	72	42
4	Age	66	Age	66	64
	Zone	G	Centre	G	E
	Type	DBD	UKELD	52	58
	BMI	22.4	Diagnosis	Non-alcoholic fatty liver disease	Other metabolic liver disease
			Travel distance (minutes)	90	416
			Transplant benefit (days)	1285.8	1470.5
			Waiting time (days)	294	233
5	Age	19	Age	67	71
	Zone	B	Centre	D	C
	Type	DBD	UKELD	58	54
	BMI	22	Diagnosis	Primary biliary cirrhosis	Primary sclerosing cholangitis
			Travel distance (minutes)	130	111
			Transplant benefit (days)	1173.3	1358.2
			Waiting time (days)	103	240

Donor			Actual recipient		New scheme recipient
6	Age	54	Age	62	62
	Zone	F	Centre	B	B
	Type	DCD	UKELD	52	52
	BMI	29.2	Diagnosis	Hepatitis C cirrhosis	Hepatocellular carcinoma – cirrhotic
			Travel distance (minutes)	103	103
			Transplant benefit (days)	592.2	592.2
			Waiting time (days)	60	60
7	Age	60	Age	63	57
	Zone	E	Centre	E	G
	Type	DCD	UKELD	50	66
	BMI	27.3	Diagnosis	Hepatocellular carcinoma - cirrhotic	Polycystic liver disease
			Travel distance (minutes)	21	410
			Transplant benefit (days)	-401.7	1381.1
			Waiting time (days)	124	348
8	Age	31	Age	18	66
	Zone	E	Centre	E	E
	Type	DBD	UKELD	67	58
	BMI	24.2	Diagnosis	Other	Alcoholic liver disease
			Travel distance (minutes)	21	21
			Transplant benefit (days)		1401.5
			Waiting time (days)	3	89
9	Age	45	Age	22	68
	Zone	B	Centre	G	E
	Type	DBD	UKELD	55	59
	BMI	30.1	Diagnosis	Alpha-1-antitrypsin deficiency	Alcoholic liver disease
			Travel distance (minutes)	285	151
			Transplant benefit (days)		1395.5
			Waiting time (days)	255	115
10	Age	32	Age	61	70
	Zone	A	Centre	C	F
	Type	DBD	UKELD	64	56
	BMI	29.1	Diagnosis	Non-alcoholic fatty liver disease	Non-alcoholic fatty liver disease
			Travel distance (minutes)	212	176
			Transplant benefit (days)	1006.7	1414.5
			Waiting time (days)	111	127
11	Age	50	Age	57	67
	Zone	B	Centre	B	A
	Type	DCD	UKELD	46	58
	BMI	25.9	Diagnosis	Hepatitis C cirrhosis	Recurrent disease
			Travel distance (minutes)	82	166
			Transplant benefit (days)	-224.5	1429.0
			Waiting time (days)	176	48

Donor			Actual recipient		New scheme recipient
12	Age	55	Age	68	60
	Zone	F	Centre	F	C
	Type	DBD	UKELD	57	62
	BMI	24	Diagnosis	Non-alcoholic fatty liver disease	Alcoholic liver disease
			Travel distance (minutes)	107	193
			Transplant benefit (days)	1374.7	1424.3
			Waiting time (days)	516	57
13	Age	42	Age	70	68
	Zone	E	Centre	F	G
	Type	DBD	UKELD	50	51
	BMI	31	Diagnosis	Hepatocellular carcinoma - cirrhotic	Non-alcoholic fatty liver disease
			Travel distance (minutes)	190	459
			Transplant benefit (days)	117.1	1378.0
			Waiting time (days)	101	119
14	Age	67	Age	47	65
	Zone	E	Centre	E	E
	Type	DBD	UKELD	57	51
	BMI	39.8	Diagnosis	Alcoholic liver disease	Non-alcoholic fatty liver disease
			Travel distance (minutes)	117	117
			Transplant benefit (days)	274.8	1173.2
			Waiting time (days)	398	85