NHS BLOOD AND TRANSPLANT
ORGAN AND TISSUE DONATION AND TRANSPLANTATION

THE FORTY SIXTH MEETING OF THE LIVER ADVISORY GROUP AT 11:00am on WEDNESDAY 15th MAY 2024 at ISH Venues, 1 Park Crescent, London, W1B 1SH

ATTENDEES

Varuna Aluvihare	**Chair, Liver Advisory Group/Kings College Hospital**
Anya Adair	Surgical lead for LAG/Royal Infirmary of Edinburgh
Mike Allison	Addenbrookes Hospital, Cambridge
Matt Armstrong	University Hospitals Birmingham
Sarah Banks	Recipient Co-ordinator Representative
Lisa Burnapp	AMD for Living Donation and Transplantation, NHSBT
Andrew Butler	MCTAG Chair/ Addenbrookes Hospital, Cambridge
Lee Claridge	St James's University Hospital, Leeds
Tim Court	Lay Member
Matthew Cramp	University Hospitals Plymouth/BLTG Representative
Audrey Dillon	St Vincent's Hospital, Dublin
Michael Heneghan	Kings College Hospital, Hepatology Representative
Andrew Madden	Lay Member
Derek Manas	Medical Director, OTDT, NHSBT/The Freeman Hospital, Newcastle upon Tyne
Aileen Marshall	Royal Free Hospital, London
Steven Masson	Deputy Chair of LAG/The Freeman Hospital, Newcastle upon Tyne
Nicky Matthews	Lead Nurse – Organ Donation, South Central, NHSBT
Ian Rowe	Chair of the National Liver Offering Scheme Monitoring Committee/ St James's University Hospital, Leeds
Rhiannon Taylor	Statistics and Clinical Research, NHSBT
Doug Thorburn	Royal Free Hospital
Rhiannon Wallis	Statistics and Clinical Research, NHSBT
Sarah Watson	Commissioning Manager, Highly Specialised Services, NHSE
Steve White	PAG Chair/The Freeman Hospital, Newcastle upon Tyne
Mike Williams	Royal Infirmary of Edinburgh
Julie Whitney	Head of Service Delivery - ODT Hub, NHSBT

IN ATTENDANCE

Tanya MacHale — Clinical Support Services, NHSBT

APOLOGIES

Ayesha Ali, Joan Bedington, Adam Barley, Chris Callaghan, Ian Currie, Omar El-Sherif, Tassos Grammatikopoulos, Andrew Holt, Gareth Jones, Sian Lewis, Peter Robinson-Smith, Sanjay Sinha, Laura Stamp, Jasvinder Ubhi, Craig Wheelans

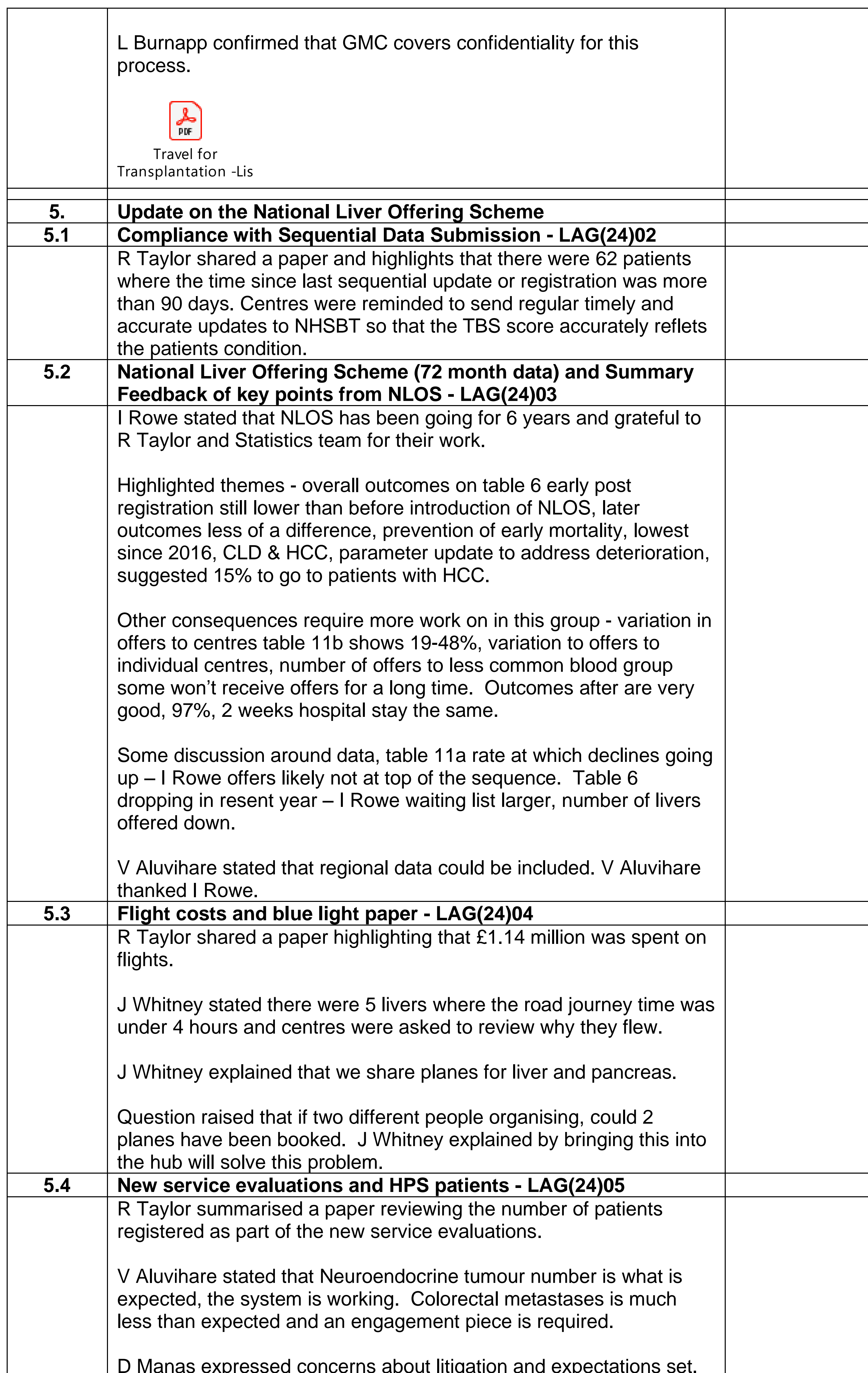
ITEM	Welcome	ACTION
1	**Declarations of interest in relation to the agenda**	
	None	
2.	**Minutes of the last Meeting, held on 29 November 2023 - LAG(M)(23)02**	
2.1	**Accuracy**	
	The minutes of the last meeting were agreed as an accurate record and ratified.	
2.2	**Action Points - LAG(AP)(23)02**	

	Action points are covered in the agenda, however 3 things not covered on the agenda: - Bobby Dasari provided V Aluvihare an update on the adenoma workstream; they are working on fine tuning the criteria and will have an update for the next LAG Core Group Meeting which will then be bought back to LAG. - S Watson and D Manas discussing resources for moving to a national waiting list. D Manas confirmed that it had not been progressed as it needs lots of IT resource. V Aluvihare informed that this will be pushed through transplant collaboratives, to achieve a more standardised approach for assessment and for long waiters including post-transplant care - The proposal to re-explore transplantation for Severe Acute Alcoholic Hepatitis is being reviewed and a fixed term working group will be established.	
2.3	**Matters Arising, not separately identified**	
	There were no matters arising.	
3.	**Medical Director's Report**	
	D Manas informed members that decisions made at core group and centre director meetings need to come back to the main Advisory Group for approval. New appointments, Laura Barton, a Programme Manager for Organ Utilisation Group (OUG). Planned for a group to have an oversite of OUG within the Clinical Team, consisting of AG chairs and D Manas and the AMDs to begin with, including L Barton and a lay member. Lorna Marson has moved to the Board. A Clarkson & D Manas meet regularly with her to keep her informed. There is a group regarding the Environmental Sustainability Group and Ad hoc groups. Finance is in the same position, some funding for DCD hearts, Clinical Leads for Utilisation (CLU) & HHV-8 testing for this year. Normothermic Regional Perfusion (NRP) was not funded, Organ Perfusion devices still not yet funded, but will be going as part of the Assessment and Repair Centre (ARC) business case being submitted. The Board has accepted it as one of the priorities for this year and before the spending review. One of the recommendations from OUG was to develop organ reconditioning centres, money has been requested to start the discovery work which could follow on from schools program, how we link in with schools. Deloitte have been appointed to help write the business case. Histopathology National Service hoped to be in place by August 2024, this is an interim service. We have secured money from NHS England to reboot the machinery used for remote viewing.	
3.1	**Organ Utilisation Group recommendations**	
	D Manas informed that lots of work in progress, alongside the working groups, our responsibility is the CLU's and collaboratives. The recent national cardiothoracic review meeting was an information gathering exercise, cardiothoracic teams gave a good account, but will complex for the panel to review. NHS England will do the review with external stakeholders. Ex vivo Lung Perfusion (ELVP) is on its way. Consent rates still low, work being done around ethnic minority groups, paediatrics and considering a relaunch of optout. TransplantPath is up and running.	
3.2	**National Liver Offering Scheme review**	

	D Manas informed that the National Living Offer Scheme (NLOS) will be formally reviewed, D Thornburn leading with an external reviewer (Jack Lake) and A Madden as the lay member; some of the group will be invited to join. D Manas and D Thorburn summarised the Terms of Reference (ToR), Jack Lake has approved the revised ToR. The current ToR have been in place for 5 years, the group will review everything outstanding including the list of IT changes, there is external representation with a dozen people on the panel, sent for SMT approval. Panel expected to include 4 clinicians, representation from HUB, lay members, governance and IT. Update in time for next LAG. Stakeholder engagement via face to face meeting, then a 2nd stakeholder meeting online.	
3.3	**NRP Funding**	
	D Manas confirmed that there is no funding for NRP this will be reviewed. Hopefully within the ARC business case it will include all machine perfusion. £1 million has been given for discovery and set up, this includes the money Edinburgh and Cambridge receive which leaves £500,000.	
3.4	**HTK/UW**	
	D Manas gave a presentation on the outcome of the HTK/UW audit. Concerns had been raised from Pancreas transplantation about increased rates of Pancreatitis with the use of HTK along with an increase in hospital stays and more complications. Liver transplantation expressed concerns over poor liver reperfusion and more centres reporting more support required for recipients. Cohort was January to September 2022 where UW used and January to September 2023 where HTK was used. Any case where both fluids were used were excluded. Covered kidney and pancreas transplants. The donor demographics were the same, only deference was fluid nothing else. V Aluvihare explained that there had been some concerns with an increased incidence of early poor function, but the data doesn't support that. D Manas explained that data was for the unadjusted 90 day survival for each organ group, transplant to death, graft survival. Of the 1930 donors reviewed, 994 UW and 936 HTK, higher number of DCD's in HTK with higher NRP's. Organ utilisation for kidneys almost the same, slightly less for Liver and the same for Pancreas. Liver outcomes 958 transplants, 523 UW and 435 HTK. Graft survival, patient survival and transplant survival had no significant difference, length of stay the same - no difference for liver. Review undertaken as problems reported and from a governance point of view it was required. New source of UW found, planned to be available for the end of July 2024; D Manas reaffirmed that it was safe to use. The audit didn't capture the amount of fluid used, the pressure on the aorta or reperfusion, although it felt that this was worse, however it doesn't transfer to a worse outcome, although outcome not the only thing to consider. D Manus informed that more data will be collated to rereview.	

	D Manas thanked Rachel Hogg and Ian Currie for their work.	
3.5	**SCORE**	
	J Whitney gave a presentation detailing that Sustainability and Certainty in Organ Retrieval (SCORE) is about changing the culture of retrieval and moving from as fast as possible to certainty provided by the pathway. The scope of SCORE is not just NORS and Offering model and includes donation workstreams and support services. A workstream is looking at flights and a NORS workforce looking at sustainability. Today concentrating on the NORS and Offering part. The donation workstream are currently reviewing the screening tool, to have a DBD & DCD screen tool for SNODs, including getting the DCD assessment process right. Looking at prolonged time to asystole's and donor optimisation, having appropriate donor care bundles for SNODs. The NORS service model is looking at the times we do retrieval, the proposal is that that the arrival time of the NORS team is between 22:00 and 03:00. The current process achieves 98.7% of abdominal retrievals, the new process would achieve 97.5% retrievals. There will be a caveat for a pathway for super urgent liver recipients and retrieval would happen instantaneously. There would also only be one retrieval per night per team. Proposal is to move offering to daytime hours, that donors are registered by 08:00 with offering finished by 16:00, arrive between 22:00 and 03:00, organs arrive in daytime with implanting between 18:00 and 20:00. Offering proposal is cardiothoracic (CT) offers 1st, outcome by 10:00, allocate at 10:00, liver offers between 10:30 and 12:00, sequentially any leftover offered in the afternoon by 16:00. Coordinating will be the best use of resources, will save on travel time, hoped that by 12:00/12:30 the best geographical decision is made allowing for daytime offering, with planned arrivals, complex surgery happening in the day with better outcomes for recipients. Support service workstream is looking at flights and the HLA labs. Engagement required with all CT centres, J Whitney asked if liver would require want more engagement at trust level, but will allow long lead in time, with engagement higher in the trust. V Aluvihare commented that staff changes should be considered with some engagement early with trusts and units. Mike Allison commented that engagement now required, to consider critical care usage, shortage of beds and what the impact of a longer stay would be. J Whitney stated that engagement with the critical care community via the CLOD network is happening, Dale Gardiner has raised concerns with a 22:00 theatre time, not the length of stay, there may be some shorter IT stays. Sarah Watson stated that linking in with the National Clinical Director would be a good idea. J Whitney explained that all but 2 cardiothoracic centres have been visited, that there is a plan for a clinical person to be available in the Hub and it to be a nurse-based team.	
3.6	**Regional collaboratives**	

	V Aluvihare explained that Gareth Jones is to develop the regional collaboratives in Southern, Midlands and Northern (as is) which would be built around resilience, appetite for optimising care, how to standardise things to improve care. The first meeting of the London liver collaborative was held recently which was successful, learnt from each other and a good team building exercise. D Thorburn has already established working on some things, this would be an extension on current collaboratives, educational collaboration, research collaboration and opportunities. Next steps are to identify who and what to take forward. V Aluvihare to share agenda and outcomes with the group.	**V Aluvihare**
3.7	**Liver Utilisation Report for noting - LAG(24)01**	
	R Taylor shared the paper and highlighted that there is the highest number of DCD's and that the adult and paediatric transplant lists are increasing. Some discussion around how to close the gap. J Whitney hopes there will be less late declines with SCORE. D Manas questioned if DCD's should be included for marginal donors and whether parameters could be set. SCORE DCD screening will help.	
4.	**LDLT Project**	
	L Burnapp updated that the Governance had been more complicated than expected but a proctor team in Leeds has been established with surgical support from Kings. The OTDT clinical website has been updated to include details of the protocol, proctor team and how to refer. A new Living Donor Liver Transplant policy has been developed and will be uploaded to the website shortly. . Page for proctor team, documents stored there, will need to know if it needs updating, monthly monitoring included for number of cases etc and financial monitoring. Network meeting to be held in Leeds on 21st May 2024 Leeds where every centre shoud be represented as well as referral pathways. Living Donor Transplant Guidelines published under BLTG and BTS almost ready for publication, due soon. L Burnapp will send communication once 'live'. L Burnapp explained that adult donor to adults recipients are the main focus with adult donor to paediatric recipients examined next year.	
4.1	**Travel for Transplantation**	
	L Burnapp gave a presentation – to be circulated post meeting. L Burnapp highlighted that, from 1st April 2024, there is a duty to report people coming to UK for a transplant and traveling outside for a transplant to the HTA. . This does not need to be done retrospectively. The HTA will make a judgement on a case, then refer if necessary. So far 20 reported and 15 have been reported to the police. You might not hear anything else after reporting a matter of concern as the report goes to the HTA and not discussed with the individual. Consider safeguarding, follow normal Trust policy, let Trust Information Governance know that NHBT are in a supporting role and updated information is available on the website. L Burnapp will add to liver network site.	**T MacHale**



	L Burnapp confirmed that GMC covers confidentiality for this process. Travel for Transplantation -Lis	
5.	**Update on the National Liver Offering Scheme**	
5.1	**Compliance with Sequential Data Submission - LAG(24)02**	
	R Taylor shared a paper and highlights that there were 62 patients where the time since last sequential update or registration was more than 90 days. Centres were reminded to send regular timely and accurate updates to NHSBT so that the TBS score accurately reflets the patients condition.	
5.2	**National Liver Offering Scheme (72 month data) and Summary Feedback of key points from NLOS - LAG(24)03**	
	I Rowe stated that NLOS has been going for 6 years and grateful to R Taylor and Statistics team for their work. Highlighted themes - overall outcomes on table 6 early post registration still lower than before introduction of NLOS, later outcomes less of a difference, prevention of early mortality, lowest since 2016, CLD & HCC, parameter update to address deterioration, suggested 15% to go to patients with HCC. Other consequences require more work on in this group - variation in offers to centres table 11b shows 19-48%, variation to offers to individual centres, number of offers to less common blood group some won't receive offers for a long time. Outcomes after are very good, 97%, 2 weeks hospital stay the same. Some discussion around data, table 11a rate at which declines going up – I Rowe offers likely not at top of the sequence. Table 6 dropping in resent year – I Rowe waiting list larger, number of livers offered down. V Aluvihare stated that regional data could be included. V Aluvihare thanked I Rowe.	
5.3	**Flight costs and blue light paper - LAG(24)04**	
	R Taylor shared a paper highlighting that £1.14 million was spent on flights. J Whitney stated there were 5 livers where the road journey time was under 4 hours and centres were asked to review why they flew. J Whitney explained that we share planes for liver and pancreas. Question raised that if two different people organising, could 2 planes have been booked. J Whitney explained by bringing this into the hub will solve this problem.	
5.4	**New service evaluations and HPS patients - LAG(24)05**	
	R Taylor summarised a paper reviewing the number of patients registered as part of the new service evaluations. V Aluvihare stated that Neuroendocrine tumour number is what is expected, the system is working. Colorectal metastases is much less than expected and an engagement piece is required. D Manas expressed concerns about litigation and expectations set.	

	V Aluvihare stated that there are working groups for all 3 cancers. D Thorburn stated that Cholangiocarcinoma is perhaps too restrictive, Colorectal a concern. D Manas agreed. Matt Armstrong asked what the prognosis is with and without transplant. V Aluvihare stated severe HPS should be receiving more liver offers. I Rowe stated that blood group B offer is an issue. R Taylor asked to add wait and blood groups to data.	**R Taylor**
5.5	**New cancer indications update**	
	See Item 5.4	
6.	**Paediatric Subgroup**	
	The Paediatric Subgroup has been established for the three transplant centres to formally discuss issues affecting paediatric transplantation. It has been agreed that the group will meet twice a year. They will establish criteria for elevatiuon to hepatoblastoma tier to standardise practice.	
6.1	**Paediatric offering data - LAG(24)06**	
	V Aluvihare explained that non-zonal offering is challenging with less offering and there is discussion on how to change it. There was also discussion about increasing access to living donor liver transplantation. J Whitney explained it is hoped to get split liver offering changed and this is a highest priority.	
6.2	**Paediatric offering sequence/multi-viceral transplant**	
	A Butler stated MCTAG size appropriate donors are in conflict with paediatric liver transplant list for split livers J Whitney explained that the FOEDUS platform is how we receive offers from the whole of Europe. NHSBT are looking to see if can we get any bilateral agreements with other countries as at the moment it's a first come first served system and other countries are very quick in responding.	
7.	**New indications**	
7.1	**Hilar Cholangiocarcinoma**	
	D Thorburn explained there's a delay to the EMPHATIC study and that the ethics submission has been submitted. It is hoped that the pathway will be open by the end of the year.	
7.2	**Appeals process for small HCC**	
	V Aluvihare updated the LAG regarding the appeals process for patients with a single tumour less than 2cm. A panel has been established to meet in a timely manner to discuss appeals.	
7.3	**UKTR data collection - LAG(24)07**	
	I Rowe explained update on all forms from NHSBT, linked data would be beneficial, discussed at core group, implications for all organs. Linked to NHS Number, some stat support would be needed.	

	R Taylor confirmed some discussions happening already.	
8.	**Liver CLU Scheme and Liver Utilisation**	
8.1	**Ideal liver report - LAG(23)08**	
	A Adair provided an update that there had been a reduction in the number of letters sent to transplant centres regarding the decline of named patient offers from ideal liver donors. An update was also provided on the liver utilisation projects ongoing. A National Organ Utilisation Group meeting will be held in Birmingham in September.	
9.	**Liver Transplant Commissioning**	
	S Watson provided an update on liver transplant commissioning and the liver transformation pathway. A letter summarising the liver transplant finances provided by NHS England will be circulated shortly to each transplant centre. A Transplant Oversight Group will be established.	
9.1	**NHS England**	
	See Item 9.1	
9.2	**National waiting list**	
	See Item 2.2	
10.	**British Liver trust update**	
	An update regarding British Liver Trust was received and the group were notified that BLT had merged with the Childrens Liver Disease Foundation. All patient material will be published on the website.	
11.	**Governance Issues**	
11.1	**Non-compliance with allocation**	
	No cases were reported	
11.2	**HTA B forms - LAG(23)09**	
	J Whitney advised there is currently no backlog.	
11.3	**Availability of vessels for vascular grafts**	
	Discussion was held regarding the availability of vessels for vascular grafts following concern regarding the EOS update. D Thorburn provided an update regarding the Royal Free vessel biobank. It was agreed that D Manas and D Thorburn would discuss how vessels are used outside of transplantation.	**D Manas**
11.4	**Governance report - LAG(23)10**	
	No cases were reported.	
11.4.1	**Summary of CUSUM monitoring of outcomes following liver transplantation - LAG(23)11**	
	R Taylor summarised that there were two signals at one centre and both are being reviewed externally.	
11.4.2	**Report on recent triggers (shared learning)**	
	No update provided.	
11.4.3	**Managing CUSUM triggers - LAG(24)12**	
	Following the recent signal, there had been discussion regarding which deaths should be reviewed (ie should it be all deaths since the start of the charts or only the deaths that contribute to the signal from either last time at baseline or previous signal). It was agreed that it should be only the deaths that contribute to the signal and this was endorsed by the group.	

12.	**Statistics and Clinical Research Report**	
12.1	**Summary from Statistics and Clinical Research - LAG(23)13**	
	R Taylor presented the paper which summarised the lead statisticians for each organ area as well as work that had been undertaken. Discussion was held regarding whether data was recorded on patients were reviewed by multiple centres for second and third opinions. V Aluvihare agreed to undertake an audit of King's College data to see whether there has been an increase.	**V Aluvihare**
12.2	**Follow-up form return rates - LAG(24)14**	
	R Taylor – paper circulated.	
13.	**Multi-visceral and Composite Tissue Advisory Group (MCTAG) update**	
	A Butler informed the group that there had been discussion at MCTAG regarding trying to increase the number of non-liver containing transplants. There was also discussion regarding the offering process for patients who receive a non-liver containing intestinal transplant and then develop liver failure or liver fibrosis and require a liver transplant. It was agreed that a fixed term working group should be established to examine the process. D Manas raised whether the FTWG should also look at the offering process for patients who receive a cardiothoracic transplant and then develop liver failure and this was agreed.	
14.	**5-year post transplant outcome data**	
	A review of 5-year post-transplant outcome at Birmingham was presented by a clinician at Birmingham. Audit at QEH, late mobility post-transplant, high volume, 01/09/14 – 31/12-18, 745 transplants, survival 83%, HCC compared to non-HCC. 91 deaths between 1-5 yrs, looked at MELD no difference, BMI no difference, donor age significant difference, no difference BMI and Graft steatosis. Causes of death HCC occurrence and 6 patients, rejection / other causes Take home message- higher risk compared to ArlD and PSC, ArLD better screening, ex-smokers, PSC de-novo cancer. Conclusion of causes, cancer, sepsis and graft loss, greater age. M Armstrong informed that post review changes have already removed some higher risk patients, with a decrease on HCC listing, post cancer. V Aluvihare suggested a nurse specialist recruited. A Adair recommended imaging within 3 mths. M Armstrong explained that Wales is a challenge. I Rowe explained there is no standard of scans, historical might be info from 5/6 years ago. M Armstrong suggested a rolling 5 yr report might be advisable. V Aluvihare suggested peers review might be an option to standardise care. M Cramp suggested 3 yrs instead of 5.	

	Discussion took place about how to influence change, possibility for collaborates. V Aluvihare thanked Birmingham for their review.	
15.	**AOB/Date of next meeting**	
	Discussion was held regarding the metrics that should be provided for patients. Date of next meeting to be agreed.	
16.	**FOR INFORMATION**	
16.1	Group 2 Transplants - **LAG(24)15**	
16.2	Outcome of appeals - **LAG(24)16**	
16.3	Activity and organ utilisation monitoring (dashboard) - **LAG(24)17**	
16.4	Machine Perfusion working group - **LAG(24)18**	
16.5	HCV positive transplants into HCV negative recipients - for noting - **LAG(24)19**	
16.6	HCC downstaging - **LAG(24)20**	
16.7	Minutes of MCTAG meeting - **LAG(24)21**	
16.8	Minutes of the Retrieval Advisory Group - **LAG(24)22**	
16.9	QUOD Statistical Report - **LAG(24)23**	
16.10	IT Changes and Update - **LAG(24)24**	
16.11	National Clinical Trials - **LAG(24)25**	