NHSBT Board
May 2018

Taking Organ Utilisation to 2020 – Progress and Measuring Success

1. Status – Public

2. Executive Summary

2.1 The strategy *Taking Organ Utilisation to 2020* includes a range of activities to increase the rate of organ utilisation in the UK. Good progress has already made in implementing the strategy, particularly around improving understanding of offer declines and challenging any inappropriate declines.

2.2 Work to deliver against other recommendations are ongoing, such as: establishing sources of funding for a Scout service; optimising the timescales at each stage of the donation and retrieval care pathway; ante-mortem interventions for donation after circulatory death. More work is planned to address the remaining elements of the strategy.

2.3 Given the range of interdependencies and the ambitious recommendations within the strategy, we anticipate that it will take some time for the changes made to have a measurable impact on organ utilisation. New performance management metrics have been developed, which will support assessment of the impact of the work to deliver the utilisation strategy.

3. Action Requested

3.1 The Board is asked to:

i. Note the key actions taken and progress to improve organ utilisation.
ii. Agree the proposed plan of future work.
iii. Agree the proposed new performance management metrics for organ utilisation, which will be built in to ODT's performance reports quarterly.

4. Background

4.1 The strategy *Taking Organ Utilisation to 2020* (published in February 2017) sought to address the inequities in access to organ transplantation. It sets out the improvements that could be made across the donation and transplantation pathway to ensure that as many offered organs as possible are safely transplanted.

4.2 The document focusses on delivering improvements within two key areas – organ acceptance and organ utilisation – neither of which fall within NHSBT's remit. Implementing the strategy therefore relies heavily on collaborative working with UK Commissioners, Transplant Centres and the relevant professional bodies (e.g. British Transplantation Society). Many of the actions within the strategy are focussed on making improvements to NHSBT's supporting infrastructure, so that surgeons have the data and tools they need to feel confident in accepting offered organs.

4.3 There are five key outcomes listed in the strategy:

Who	**Outcome**
NHS hospitals and staff (donation)	Excellence in the assessment and management of potential donors means that as many organs as possible are available for transplant.
NHS Blood and Transplant (allocation and offering)	Donated organs are effectively matched with the most appropriate recipients and then offered in a timely manner.
NHS hospitals and staff (acceptance)	Surgeons have the information and guidance to enable them to safely accept and transplant as many organs as possible, with patients being able to take an active role in the decision.
NHS hospitals and staff (organ retrieval)	Retrieval teams attend donors at the most suitable time and organs are preserved to maximise the potential for successful transplantation.
NHS, NHS Blood and Transplant, Professional Bodies (infrastructure)	Innovation and best practice are recognised, rewarded and shared. Barriers to maximising the potential for safe organ transplantation are quickly identified and addressed.

4.4 Good progress has already been made in delivering against these aims. For example:

- Organ declines - New processes for contacting Transplant Units to seek greater understanding regarding the declines of organs from 'ideal donors' have been established and well received. Initial feedback indicates that this is already changing behaviours in Trusts.
- Transplant Capacity – Liaised with all UK Transplant Units to explore barriers to organ utilisation. The final report suggests in a 12-month period, over 80 organs had been declined for transplant due to capacity issues. We are working collaboratively with UK Commissioners and Transplant Units to develop approaches that can help address them.
- Consent – Working with the British Transplantation Society to develop improved guidance which supports surgeons in their

discussions with patients regarding risks of offered organs and best practice in consent.

- Risk – Collaborating with the Winton Centre – Internationally recognised organisation based within the University of Cambridge that has specialist knowledge in explaining complex mathematics and the understanding of risk in an accessible way. Since the Institute is founded by a philanthropist, the cost to NHSBT will be small. The collaboration aims to make on line tools available to patients and clinicians to help explain risk in order to aid the process of consent.
- IT infrastructure – The ODT Hub Programme has delivered improvements in the organ offering and allocation systems, such as the recently launched liver allocation scheme. These have been positively received. Plans for 2018/19 include digitising initial donor and transplant record forms (known as the HTA A and HTA B forms) with the aim of supporting clinical decision-making. The ODT website has also been improved, so that data is more accessible for both clinicians and patients.
- Improved metrics for measuring organ utilisation, which will be included in the standard quarterly Organ Donation and Transplantation Performance Report.

5. Proposal

Next steps

5.1 The implementation plan is provided at Appendix A for consideration.

5.2 Accurately measuring utilisation is essential in order to determine the impact of the different interventions. For abdominal organ utilisation, the discard rate of retrieved organs is one performance indicator. However, the 'quality' of the organ must be considered when quantifying utilisation, as it is accepted that higher risk organs have an increased chance of discard.

5.3 The following metrics are proposed:

i. Discard rate of organs retrieved from apparently 'ideal' donors

- Defined using definitions applied to core donor data forms (CDDFs) (see Appendix B)

ii. Discard rate of organs retrieved from deceased donors, stratified by donor risk index quartile

- Kidney: New UK Kidney Donor Risk Index (Lisa Mumford, to be published)
- Liver: Liver Donor Risk Index (Dave Collett et al, *Transplantation* 2017)
- Solid organ pancreas: Pancreas Donor Risk Index (David Axelrod et al, *Am J Transplant* 2010, Shruti Mittal et al *Transpl Int* 2015)

6. Cost-Benefit

6.1 It is anticipated that delivering against most recommendations within the strategy will be cost-neutral and delivered within existing resources. The potential exceptions to this are:

i. Development of a Scout service
ii. Materials or testing to support improved decision making and consent by clinicians.
iii. Improved methods of organ preservation
iv. Ante-mortem interventions for donation after circulatory death (DCD)

All of these activities are subject to approval and prioritisation by ODT Senior Management Team in order to proceed. Should this approval be given, separate business cases will be provided to the Board and the four UK Health Department for consideration.

6.2 The financial benefits arising from improved organ utilisation will mainly be to the wider NHS, rather than NHSBT specifically.

7. NED Scrutiny

Keith Rigg has been consulted.

8. Appendices

The following appendices are supplied:
Appendix A: Taking Organ Utilisation to 2020: Implementation Plan
Appendix B: Organ Utilisation Performance Metrics – Supporting data

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Appendix A: Taking Organ Utilisation to 2020: Implementation Plan

	Action	Resources required (Internal)		Timescales	
		HR	Funding	Commence	Complete
	Outcome 1: Excellence in the assessment and management of potential donors means that as many organs as possible are available for transplant.				
1.1	Establish a rapid and appropriate screening pathway to exclude inappropriate DCD donors.	To be delivered through The Hub vision	Through The Hub	17/18	2020
1.2	Subject to a change in the current legal guidance regarding ante-mortem interventions, pilot new approaches for ante-mortem donor management.	CLOD; SNOD; ICS; FICM; Clinical Governance	Business Case required	18/19	2020
1.3	Take all possible steps to minimise warm ischaemic injury in proceeding DCD donors, including withdrawal of life sustaining treatment in the operating theatre suite where this is likely to improve retrieval and transplant outcomes.	CLOD; SNOD; Clinical Governance; ICS; FICM	None additional	18/19	2020
1.4	In line with recommendations from the Cardiothoracic Advisory Group, National Organ Retrieval Group and external peer reviewers, introduce a UK-wide Scout facility.	Hub Operations; Commissioning; CLOD; SNOD; Medical team	Business case required	17/18	2020
	Outcome 2: Donated organs are effectively matched with the most appropriate recipients and then offered in a timely manner.				
2.1	Develop and improve the IT infrastructure, to support the timely, accurate matching of donor organ offers to suitable recipients.	Clinical Leads; Hub Operations; SNODs; Statistics Team	Through The Hub		
	a. Liver; Cardiothoracic; Intestine			16/17	17/18
	b. Kidney; Pancreas			18/19	19/20
2.2	Increase the numbers of organs offered to named recipients in allocation algorithms.	Hub Operations; Medical Team; Statistics Team	Through the Hub		
	a. Liver; super-urgent heart			16/17	17/18
	b. Kidney; Pancreas			18/19	19/20

	Action	Resources required (Internal)		Timescales	
		HR	Funding	Commence	Complete
	Outcome 3: Surgeons have the information and guidance to enable them to safely accept as many organs as possible, with patients being able to take an active role in the decision.				
3.1	In discussion with clinicians and patient groups, identify how to improve patient involvement in difficult decisions about organ acceptance.	Medical Team; Comms; Commissioning	None additional	18/19	2020
3.2	In liaison with the British Transplantation Society, improve and raise awareness of best practice regarding consent.	Medical Team; Digital	Business case may be required for minor additional funding	17/18	18/19
3.3	NHSBT will work with the BTS to raise awareness of the support already available from NHSBT to surgeons and explore whether this needs to be strengthened, so that surgeons feel better able to take considered / controlled risks in the utilisation of offered organs. The effectiveness of this approach will be kept under review to assess whether surgeons feel that support offered by NHSBT has improved.	Medical Team; Comms; Clinical Governance; Hub Operations; Statistics Team	None additional	17/18	Ongoing
3.4	NHSBT will collate and disseminate an evidence-base on the use of higher risk organs using UK Registry analyses.	Statistics Team; Medical Team; Clinical Governance	None additional	18/19	19/20
3.5	A retrospective audit of reasons for decline as held on the central NHSBT database and that held locally by Units, to inform improved data collection and dissemination. Building on the outcome of the audit, improve data collection on organ declines to remove any inaccuracies, so that it can better inform local decisions and actions.	Statistics Team; Medical Team; Clinical Governance	None additional	17/18	Underway and then ongoing

	Action	Resources required (Internal)		Timescales	
		HR	Funding	Commence	Complete
3.6	Build on the current data routinely provided through senior management to NHS Trusts regarding organ donation activity and where a Trust also includes a transplant unit, include comparative data on organ acceptance and declines.	Statistics Team; Medical Team; Clinical Governance; Comms; Commissioning; SNOD; CLOD; ODC Chair	None additional	17/18	Ongoing
3.7	Introduce a standard clinical governance package, which should be made available for every transplant unit and should include: a. Regular decline (monthly) review meetings b. Decline reviewed in relation to waiting list mortality for that unit c. Annual review of discarded organs	Statistics Team; Medical Team; Clinical Governance	None additional	18/19	18/19
3.8	There will be a national annual review of discarded organs, to share learning and understanding regarding the potential loss of organs.	Statistics Team; Medical Team; Clinical Governance;	None additional	17/18	Ongoing
	Outcome 4: Retrieval teams attend donors at the most suitable time and organs are preserved to maximise the potential for successful transplantation				
4.1	Develop an improved system to support the sharing of real-time data and digital imaging, to inform surgical decision after acceptance of an organ but prior to the organ being dispatched.	Transplant Support Services; Hub Operations; SN-OD, Medical Team; Commissioning; The Hub	Through The Hub	18/19	2020
4.2	Audit of discarded organs that may have been damaged during the retrieval process.	Statistics Team; Medical Team; Clinical Governance; Commissioning	None additional	18/19	18/19
4.3	RINTAG will provide rigor to the donation, retrieval and transplantation research programmes and advice to NHSBT and Commissioners regarding how innovation may improve future service provision.	Medical Team; Commissioning; Comms; SN-ODs; Finance	Business Case required	Ongoing	Ongoing

	Action	Resources required (Internal)		Timescales	
		HR	Funding	Commence	Complete
4.4	Establish an enhanced retrieval service, which will provide rapid attendance in circumstances where: (i) Following initial patient assessment, donation will clearly proceed; (ii) Organs are likely to be accepted but the donor is unstable or the family says the process is too long.	Commissioning; Statistics Team; Medical Team; Clinical Governance;	None additional	18/19	2020
	Outcome 5: Innovation and best practice is recognised, rewarded and shared. Barriers to maximising the potential for safe organ transplantation are quickly identified and addressed.				
5.1	A meeting with each organ transplant service community will be held to review data on declines and organ utilisation and share best practice.	Statistics Team; Clinical Support Services; Medical Team; Clinical Governance	None additional	18/19	18/19
5.2	NHSBT to survey all Transplant Units to explore what, if anything, should be done to improve the infrastructure and resources to support organ utilisation.	Medical Team; Finance; Commissioning, Statistics Team	None additional	17/18	17/18
5.3	NHSBT will work with the British Transplantation Society to establish a scheme for recognising talent in the field of organ transplantation.	Medical Team	None additional	18/19	18/19

Appendix B: Organ Utilisation Performance Metrics – Supporting data

1. Ideal Donor – Core Donor Data Form Criteria

Kidney 'ideal' donor:

- Age >10 and <50 years
- No malignancy
- HBs Ag neg
- HCV Ab neg
- HIV neg
- HTLV neg
- No hypertension
- No diabetes
- No UTIs in current admission

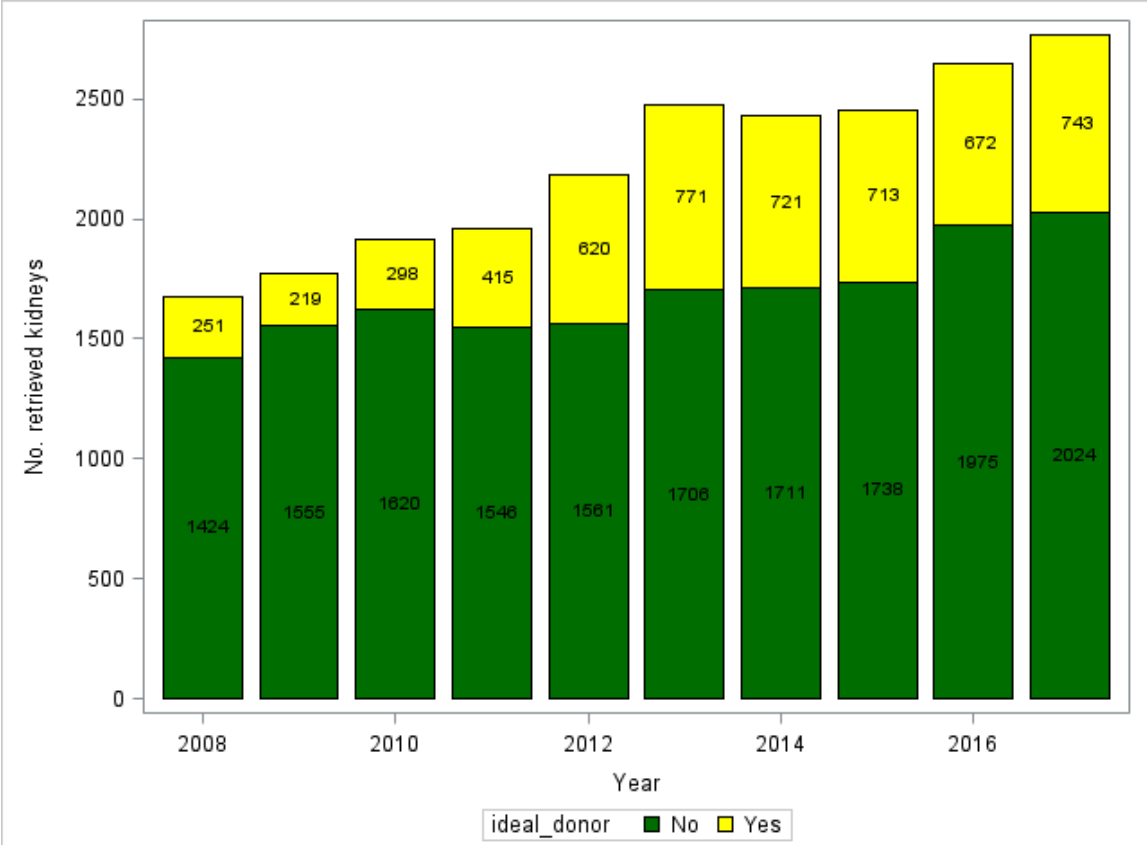
Liver 'ideal' donor:

- Age >15 and <60 years
- No malignancy
- HBs Ag neg
- HCV Ab neg
- HIV neg
- HTLV neg
- BMI <30 kg/m^2
- DBD donor
- Serum ALT <50 at retrieval
- ITU stay <10 days

Pancreas 'ideal' donor:

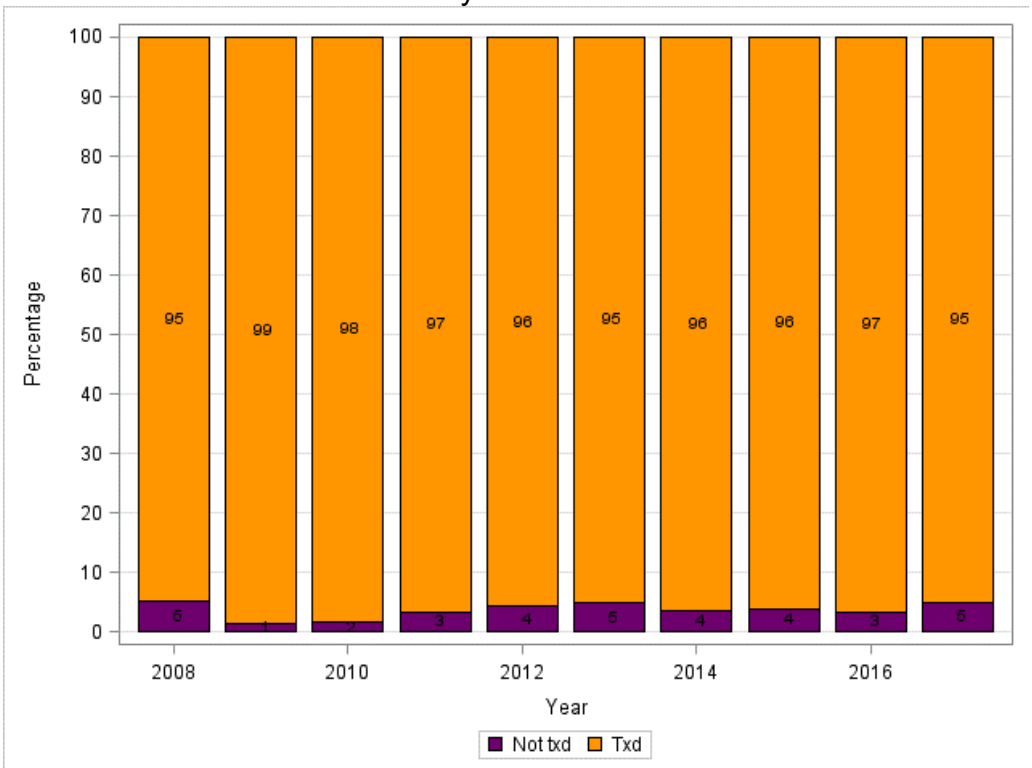
- Age >15 and <50 years
- No malignancy
- HBs Ag neg
- HCV Ab neg
- HIV neg
- HTLV neg
- BMI <27 kg/m^2
- DBD donor
- No cardiac arrest >60 mins duration
- ITU stay <10 days

2. Number of retrieved deceased donor kidneys per year and 'ideal' donor status



NOTE: CDDF codes changed after 2012-13. The apparent increase in the proportion of 'ideal' donors since 2012-13 is therefore illusory.

3. Utilisation rate of retrieved kidneys from 'ideal' donors



4. Quarterly utilisation rates of retrieved ideal kidney donor organs during 2017

	Jan - Mar	Apr - Jun	July - Sep	Oct - Dec
No. Transplanted	199	161	182	164
No. Not Transplanted	15	5	4	13
% Transplanted	**93%**	**97%**	**98%**	**93%**

5. Donor risk quartiles

		Jan - Mar	Apr - Jun	July - Sep	Oct - Dec
Quartile 1 (highest quality)	No. Transplanted	102	99	116	86
	No. Not Transplanted	8	1	4	1
	% Transplanted	**93%**	**99%**	**97%**	**99%**
Quartile 2	No. Transplanted	115	111	117	109
	No. Not Transplanted	9	6	1	16
	% Transplanted	**93%**	**95%**	**99%**	**87%**
Quartile 3	No. Transplanted	120	136	139	166
	No. Not Transplanted	10	8	10	19
	% Transplanted	**92%**	**94%**	**93%**	**90%**
Quartile 4 (lowest quality)	No. Transplanted	175	189	168	229
	No. Not Transplanted	40	41	32	42
	% Transplanted	**81%**	**82%**	**84%**	**85%**