

Kidney Advisory Group
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Recipient-specific matching criteria

In the next programme increments of the ODT Hub development, the new waiting list software is to be developed. This will include the facility for transplant centres to register, activate and suspend patients for the waiting list directly, and this also provides the opportunity to review what information is recorded in patient registration with a view to developing more intelligent matching.

The new liver matching algorithm is expected to provide better matching of donated liver to the most suitable recipient, but other organs will also benefit from some mechanism to minimise inappropriate offers.

Currently there are centre-specific matching criteria, so that centre A may accept DCD kidneys from donors up to 65 years old and centre B will accept up to 85 years old. This effectively means that our current matching algorithms would regard a 70-year old DCD as inappropriate for a 72-year old recipient in centre A, but suitable for a 23-year old recipient in centre B. While the clinicians in centre B would probably decline such an offer, the offer itself imposes a delay and extends the whole donation process.

Two separate but compatible solutions are proposed:

Recipient matching criteria (for named patient offers)

Each advisory group may develop agreed criteria felt to be relevant to the acceptance decisions for their organ. These can then be used in the organ matching algorithm and will exclude inappropriate recipients from the match run, much in the manner that recipients are not matched currently if the donor has one of those recipients' declared unacceptable HLA antigens. Some example criteria might include:

All organs	Donor age range Donor hepatitis C status Donor HIV status HLA match score Unacceptable HLA antigens
Lung	Donor smoking status
Liver	Steatosis Donor hepatitis B status Split liver (any / right lobe only / extended right lobe only / none)
Kidney	UK Kidney Donor Risk Index Donor diabetes / hypertension / proteinuria (?composite of these and age) Suitability for dual transplant Suitability for paediatric en bloc

The advantage of this would be a reduction in inappropriate organ offers, speeding up the overall offering process and reducing workload on the Duty Office and the already overstretched transplant centres. The major disadvantage will be the workload for transplant centres in retrospectively applying these criteria to patients already on the waiting list, which will be a particular problem for kidney centres with large waiting lists. Additionally, each transplant centre will need to develop a mechanism for reviewing the recipient-specific matching criteria for their patients at appropriate time intervals.

Centre-specific matching codes (for centre offers)

A field can be added to the patient registration forms for bespoke centre-specific single-letter matching codes, allowing as many codes as appropriate to be added to any patient. These codes need only be understood by the relevant centre, so there is maximum flexibility in how these codes are used.

For example, a liver centre may use “S” to mean suitable for a split liver of any type, or “X” to mean suitable for extended right lobe only. A kidney centre could use “P” to mean recipient suitable for paediatric en bloc, or “U” to mean urgent transplant for failing vascular access. A cardiac centre could use “L” to mean the recipient has a left ventricular assist device.

When the transplant centre receives a centre offer for an organ on the new system, the match run will be visible via the Hub portal rather than in a fax. With centre-specific codes, it would be possible to then filter the local match run to only include patients with one or more of the codes, so that when being offered paediatric en bloc kidneys, a centre using a code to indicate suitability for such a transplant could filter a local match run of perhaps 50 recipients down to a list of 5 for whom the offer is actually suitable.

Taking this further

If the Advisory Groups feel that either or both of these options will improve organ matching, then the Hub development teams can make provision for these in the development of the Transplant Listing functionality within the CRM and the matching algorithms within the BPMS.

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