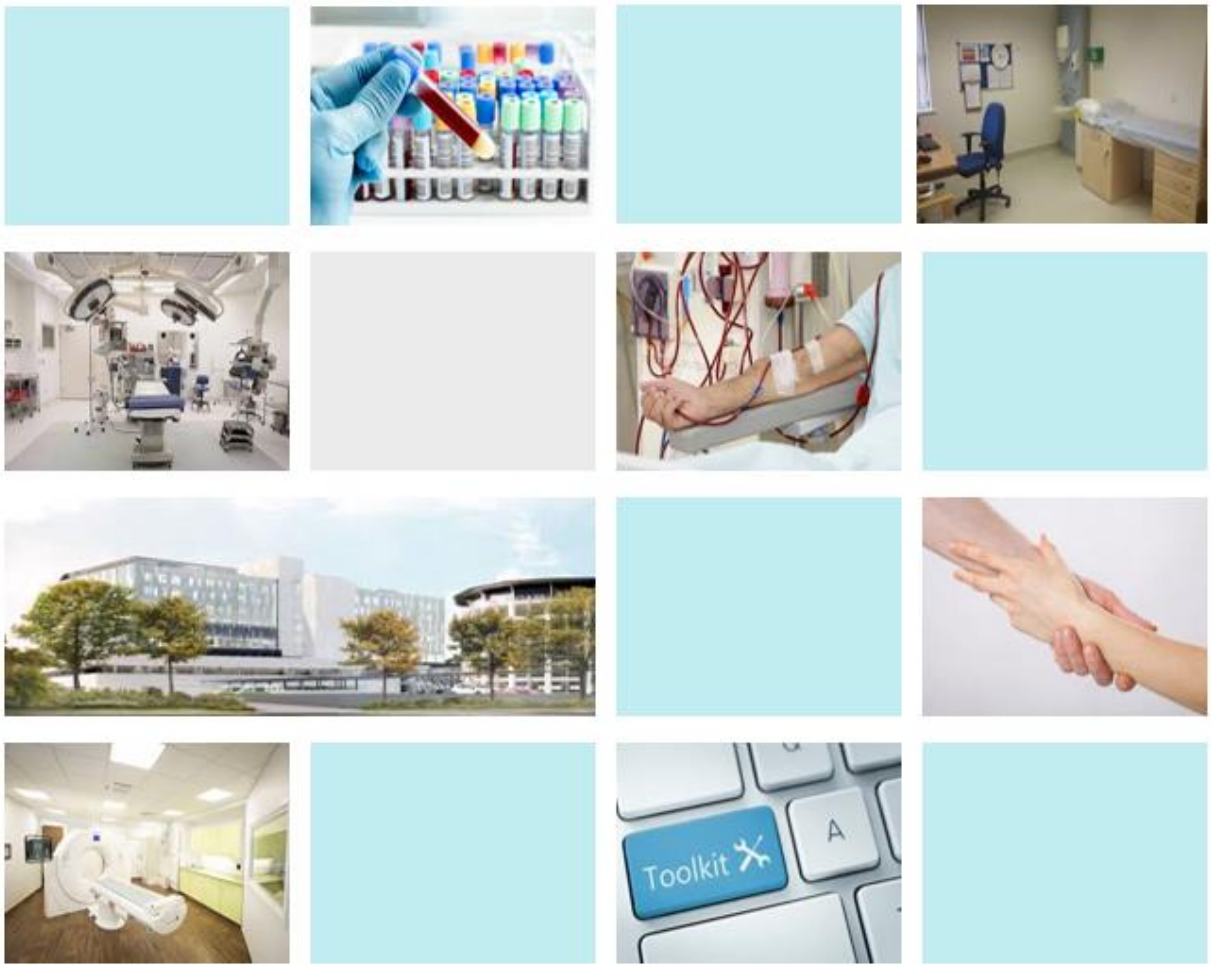


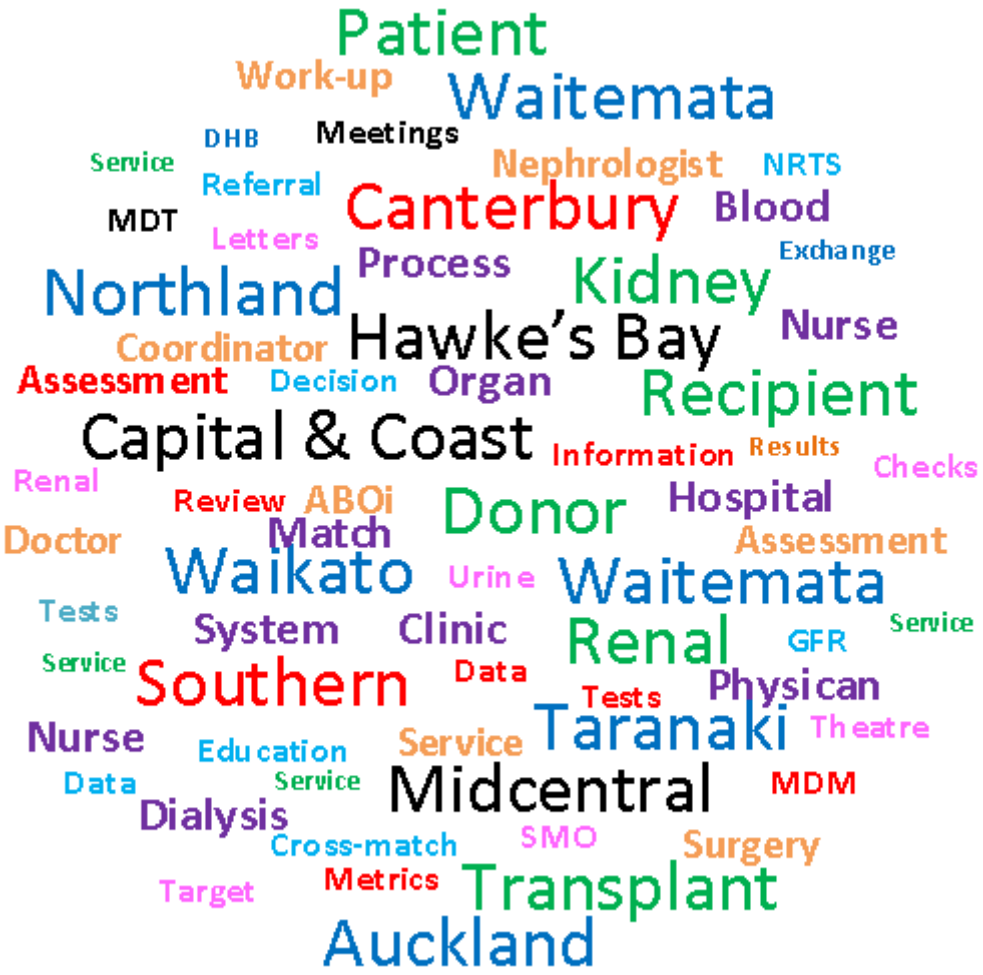
NATIONAL RENAL TRANSPLANT SERVICE

IMPROVING LIVE DONOR AND KIDNEY RECIPIENT PROCESSES

CONTINUOUS IMPROVEMENT RESOURCE

National Renal Transplant Service

Contents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Executive Summary

What are the components of a quality service for donor and recipient assessment for kidney transplantation? What are expected local variations in processes, and how is equity of access to be assured? This resource aims to answer these questions, and to provide guidance for services seeking change to increase the rate of kidney transplantation for their patients.

This resource has been developed as a means of making use of the information that emerged in the course of the National Renal Transplant Service's (NRTS) process mapping meetings at New Zealand's 11 DHB renal referring centres in late 2017 – early 2018. It pulls together in a toolkit format various aspects of the live donor and kidney recipient processes into one publication, provides definitions of quality service and ideal processes, and outlines strategies for guidance towards making selected quality improvements in services for the patient and the donor. It provides expert-based guidance and options to address service challenges and describes what good quality looks like.

The material here is intended to be helpful. However, it is important to make some disclaimers. There is very little published evidence to guide improvement in live donor and recipient practices. The views here are therefore largely opinion based, and represent the views of the National Renal Transplant Service and the National Renal Transplant Leadership team. Errors and omissions are expected and are the responsibility of the authors, rather than the DHB services.

Information is presented from the point of view of the referring or non-transplanting DHB services. This is because the majority of New Zealand's donors and recipients are primarily cared for outside of transplanting DHBs for the large proportion of this process. Even within transplanting DHBs, subspecialisation of individual staff mean that there are analogous referral pathways.

Insights have been gleaned from short term contact with DHB services, and it is therefore entirely possible that there are important or even key drivers for variable practice that have been overlooked. It is not intended as a prescription for change – making all of the changes described herein can neither be expected to guarantee nor be necessary to increase access to kidney transplantation. There are many paths to process improvement.

As such, this document is best viewed as a starting point for units considering change. Service issues continually emerge, so 'continuous improvement' is a paradigm within which problems are seen as an ongoing opportunity to make beneficial changes.

This resource examines the value of quality improvement in processes; how to assess and then accomplish the planned changes and what can be achieved after the changes have been implemented.

The key components of a quality donor and recipient service include:

- Identified, skilled, responsible staff with sufficient time to undertake assessments – transplant or donor liaison coordinators, and senior medical officers (SMO)
- Leadership from an SMO to drive change towards a culture of ownership of the problem of achieving transplantation within nephrology services
- Local support from associated departments to appropriately prioritise testing (eg radiology, psychological medicine, cardiology)
- Clear processes, with IT infrastructure to support assessments

As well as illustrating key components for quality processes, this resource also contains

some useful worked examples for improving common problems, for example:

- Low pre-emptive live donor rate
- Long donor assessment time
- Low donor / recipient assessment failure rates
- High donor / recipient failure rate
- Templates for assisting teams to make changes

To help give shape to the quality ideas in this document the information is presented within a continuous improvement framework:

- Understanding quality donor and recipient assessment processes
- Recognising key principles
- Understanding the concept of continuous improvement with a view to making improvements in local processes

Overview

Kidney transplantation surgery and immediate post-operative care are provided at three District Health Boards (DHBs) in New Zealand by specialised clinical teams (Auckland, Capital & Coast and Canterbury). These teams are led by surgeons and nephrologists with subspecialist knowledge and skills in transplantation medicine and surgery. Other key members of the team at the transplanting DHBs are transplant coordinators, who oversee the process of preparing recipients and donors for transplant surgery.

The final decision to proceed with deceased donation listing or live kidney transplantation rests with transplanting DHB clinicians. These decisions are reached via multidisciplinary team discussions involving nephrologists from referring centres, and often draw on expertise from other disciplines such as radiology and psychology provided at either the referring or the transplanting DHB.

Dialysis services are provided at 11 DHBs independently (with Nelson-Marlborough also having nephrologist care and some elements of dialysis services provided independently) and these DHBs select, assess and refer patients to transplanting centres for donation and transplantation. The majority of end stage kidney failure patients (ESKD), including the subset who are appropriate for transplantation) and their potential live donors will receive their care at DHBs other than the transplanting unit.

Within transplanting DHBs there may be further subdivision of service and roles, particularly among surgeons and nephrologists, with individuals taking on responsibility for transplant assessment. These individuals typically have additional training and/or experience in transplantation assessment.

This means that the large majority of patients with ESKD in New Zealand are reliant on the organisation, skills and commitment of non-transplant centre clinicians for the decision to assess them, and completion of their assessment to the point of the decision to proceed. This is therefore the perspective from which this document has been written.

Although there are some important differences in approach between the three transplant units, they provide a very similar service. Donors and recipients are referred to transplant centres as part of their assessment. The majority of the assessment takes place outside of the transplant unit, with the referring centre accessing advice and services from the transplant unit as required. Sometimes the demarcation between the referring and transplant centre is indistinct. For example, transplant team members (eg surgeons, nephrologists and coordinators) may travel to referring centres to conduct clinics to assess donors and recipients. Access to these clinics is typically controlled by the referring centre.

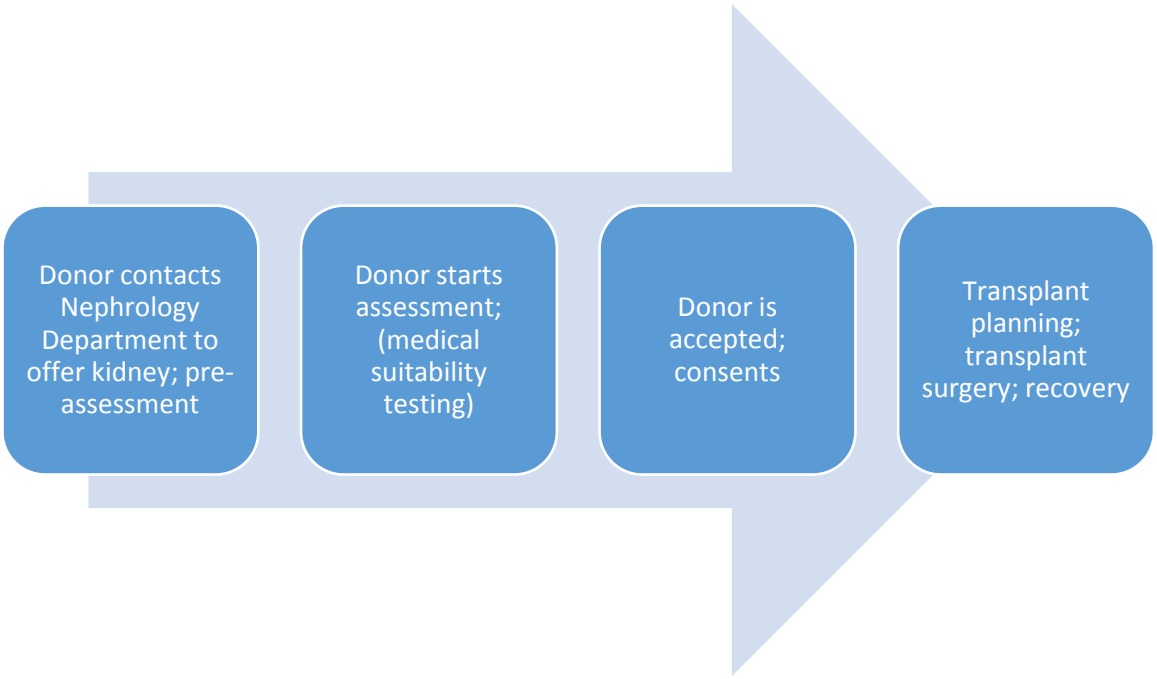
What can you expect from this resource?

This document is intended as a guide for renal teams working in referring centres.

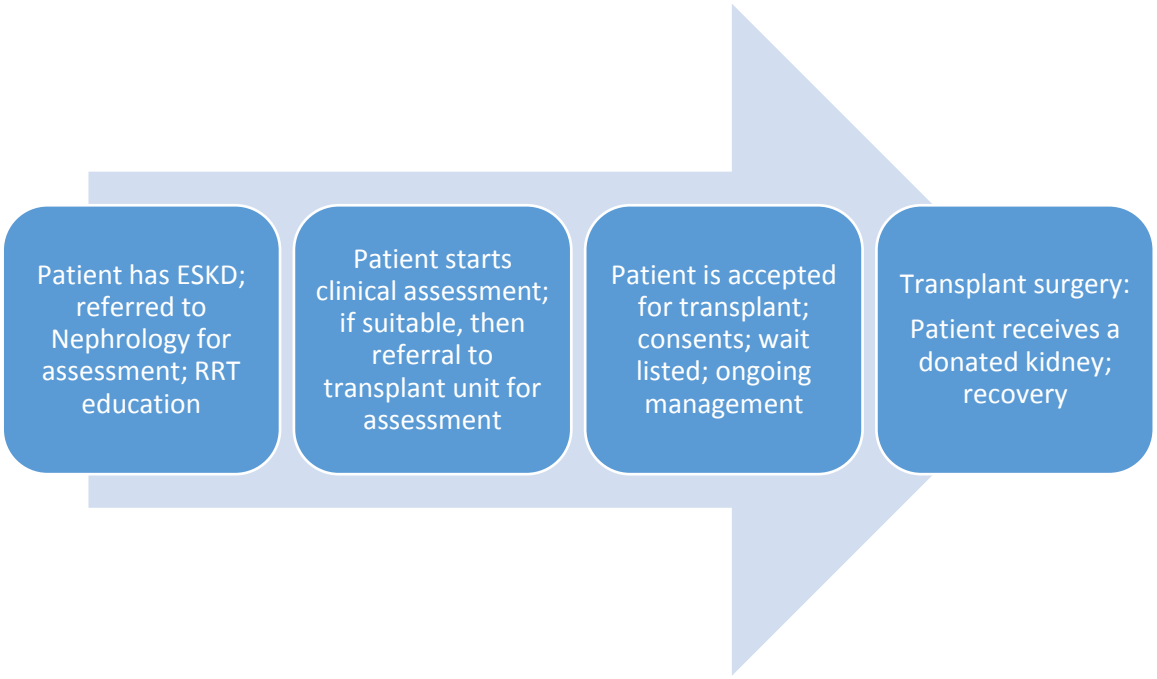
Part One	**VIEWS OF DONOR AND RECIPIENT ASSESSMENT PROCESSES** Provides a high level overview of the two processes.
Part Two	**UNDERSTANDING QUALITY AT REFERRING CENTRES** Identifies the elements of quality in renal referring centres.
Part Three	**RECOGNISING KEY PRINCIPLES OF DONOR PROCESS** Identifies key principles of each of the donor process phases and notes how to identify 'symptoms' that could be opportunities for improvement.
Part Four	**RECOGNISING KEY PRINCIPLES OF RECIPIENT PROCESS** Identifies key principles of each of the recipient process phases and notes how to identify 'symptoms' that could be opportunities for improvement.
Part Five	**UNDERSTANDING CONTINUOUS IMPROVEMENT CONCEPT** Provides a general guide to understanding and managing continuous improvement.
Part Six	**MAKING IMPROVEMENTS** Provides some 'worked examples' based on the model of **'If these circumstances are present….then these are possible fixes'**. These examples have been compiled from observations made during the course of the mapping meetings.

PART ONE Donor and Recipient Assessment Processes

High level overview of the Donor Process



High level overview of the Recipient Process



PART TWO - QUALITY

What do Quality Assessment Services at DHB Referring Centres Look Like?

Coordinators and nephrologists employed at referring DHBs work together to process donors and potential recipients to the point of being ready for donation or transplantation. They access services provided by transplant centre DHBs (eg nephrologist/surgeon/coordinator clinical assessments) in line with agreed protocols.

Key components of high quality donor and recipient assessment processes are:

1) Transplant Assessment Team: Coordinators and SMOs
2) Team culture: Teamwork, availability, prioritisation, equity of access
3) Local support: Supportive engaged departments
4) Clarity: Agreed, understood process; IT infrastructure

Transplant Assessment Team: Coordinators and SMOs

The most important component of a high functioning service is the staff involved.

There are two roles (coordinator and nephrologist), and the minimum effective team is therefore two individuals (one coordinator and one nephrologist). There are advantages to having more than one person involved to allow for team member absence. Positions are often filled by staff with other roles, so sufficient time must be protected for them to undertake their roles. Together, they form the transplant assessment team.

Coordinator

Coordinator (might be designated Nurse Coordinator, Transplant Coordinator, Live Donor Coordinator or Donor Liaison Coordinator) is/has:

- Highly organised
- Highly developed interpersonal/communication skills
- Attention to detail
- Process oriented
- Clinical knowledge/skills
- Data management skills
- Willing to learn/challenge norms
- Support from DHB for ongoing professional development/national engagement
- A close relationship with transplanting/referring DHB coordinators
- Detailed understanding of assessment pathways

Nephrologist

Nephrologist with transplant focus (might be designated transplant nephrologist or not have a specific designation) is/has:

- Expert in assessment of donors, recipients or both

- Identified as having the role by own DHB (eg with Clinical Lead for Transplantation or similar)
- Committed to continuing medical education about preparation and management of donors, recipients or preferably both
- Highly engaged with transplant unit (preferably frequent face to face engagement with staff there)
- Engaged with other clinical services at own/other DHBs, and able to influence these when required
- Detailed understanding of assessment requirements and decision making points for donors and recipients
- Able to advocate with transplant DHB clinicians effectively
- Detailed understanding and supportive of the transplant DHB's views and approach
- Contributing to the transplant team's function (eg presentation at CME, review of protocols)
- Oversight of all assessments with view to continuous improvement in process

Team culture: Teamwork, Ownership, Availability, Equity of Access

High functioning services have a team approach and culture that is similar at many DHBs. The characteristics include:

Ownership The transplant assessment team at the referring centre should 'own' the problem of progressing assessments for their patients. High functioning teams see issues with access to transplant as their problem to solve, and have a focus on solving problems for their patients.

Team work The transplant assessment team (consisting of the coordinator and nephrologist) should have frequent contact and a close working relationship. Coordinators should ideally be collocated with the nephrologist to facilitate frequent contact. Typically, the coordinator will discuss assessments with the nephrologist as issues arise. A scheduled weekly meeting to discuss assessments/process helps streamline assessments.

Availability Where the service is big enough, there may be more than one coordinator (or part time appointees). Coordinators may have other roles (for example, working as dialysis nurses) but ideally will be available on many days of the week to undertake the coordination role. Roles may be subdivided with different individuals taking on donors and recipients, or individuals taking on 'case loads' of donors and recipients. It is ideal, though, that all coordinators can undertake all roles for provision of leave cover and training new staff.

Equity of access Māori/Pasifika are four to six times more likely to be on dialysis than non-Māori/Pasifika, but receive transplants at much lower rates.

There are many factors contributing to this, including comorbidities and socioeconomic determinants of health that may impact on transplant suitability and assessment processes. However, it is important to see these as challenges to be addressed through organising and delivering services that remove barriers and maximise opportunities for Māori/Pasifika to be assessed, both as potential donors and potential recipients.

Staff working with Māori or Pasifika need to have a good understanding of cultural and social factors that may influence the decisions made by individual patients and their clinical teams about treatment and options. Staff should facilitate patient and whānau participation in the treatment process and decision making through a partnership approach.

High functioning teams continually consider the way services are delivered, and have a flexible approach to delivering assessments based on what is most acceptable to their population.

Local support: Supportive engaged departments

Assessment of recipients and donors involves other departments within the assessing DHB, and often, in other DHBs.

In DHBs with high functioning services, there is a recognition of the complexity of the assessment process, and the need to prioritise assessments based on the needs of both the donor and the recipient.

Advocacy

Transplant teams need to be strong advocates for their donors and recipients within their DHBs, and with other DHBs. For example, testing for donors may be deprioritised because of the perception that testing is for a healthy person without suspicion of serious disease. Framing the testing for donors as necessary to provide healthcare for the recipient (in the form of transplant) more correctly prioritises donor assessments highly.

Responsible use of resources

Transplant teams also need to be aware of the impact of assessments on their supportive departments and recognise that consumption of resources for assessments that are not likely to proceed to transplant is harmful, both for the patient involved and the health system. Advocacy for access to necessary resources is more likely to succeed where teams demonstrate understanding of the need to protect the resource from waste.

Supportive management

Successful assessment teams have supportive management structures within their DHBs who recognise the value of donor and recipient assessment. They will recognise that not all assessments end in a successful transplant, and

improvement in processes takes time. Management will work to create an environment that enables the assessment team to work effectively.

Clarity: Agreed, understood process; IT infrastructure

Donor and recipient assessments are complex and approaches to both should be largely consistent within a DHB. Teams involved should be clear on the steps in the process, particularly coordinators. Typically, the processes should follow the steps sequentially, but there need to be agreed processes for varying assessments where clinically or organisationally advantageous. There should be a clear pathway for getting advice to the coordinator. Typically that will be the local SMO, supported by the transplant centre staff (coordinators and/or SMO). There are a number of practical components that teams use:

Infrastructure

Networked computer, communications/IT infrastructure including access to health records and internet, mobile technology and office space.
Workflow documentation eg spreadsheets, electronic clinical records.
Physical and virtual information resources.

Clear and responsive pathway to transplant DHB for advice.

Further Guidance about Process

Goals

If the goal is increased transplants then prioritising live donor process is key, as this is a controllable source of kidney donations. A streamlined, optimal process will lead to minimal delays in transplants and maximal transplant opportunities *for the subset of patients who have a potential donor.*

If the goal is better equality of access then focussing on recipients is more important. This is because those with low health literacy are less able to advocate for themselves and traverse a difficult health system or advocate for themselves within a suboptimal system.

A focus on both recipient assessment and live donor assessment is therefore required.

A key measure of 'success' for a referring centre is a high overall proportion of transplanted individuals within the ESKD population.

Value of transplanting

In many instances, proceeding with a transplant is likely to be of significant benefit to the recipient compared to the patient remaining on dialysis. Similarly, a reduction in dialysis associated costs means that transplantation is highly valuable to DHBs and the wider health system. This is the case even where the risks of an adverse outcome following transplantation are higher than for other recipients.

Resource utilisation

Transplant rates across all departments represent only a fraction of those who are offered assessment. Many potential donors do not reach the goal of having their kidney removed and donated to a patient in need. Potential donors may be unsuitable through their own existing or discovered health issues, or decide to withdraw from assessment. Assessment can therefore be inherently consuming of resources if it is not limited appropriately.

Collaboration

There is an inherent tension between referring centres and transplanting units that is reduced where there are strong working relationship between them. Because of the need to refer donors and patients there need to be ongoing efforts to develop a collaborative approach.

Engagement of SMOs, and appropriate development of the nephrologist role within transplantation at referring centres is fundamental to the transplant process. In units where SMOs are ineffectively engaged, transplantation is likely to be underdeveloped. This should be viewed as a joint responsibility.

Support for development at referring centres from transplant unit SMOs and coordinators is fundamental for achieving transplantation for recipients from referring centres.

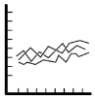
Risk management

Transplant units may be risk averse as adverse transplant outcomes are highly undesirable. They are even more concerned about adverse donor outcomes and therefore may manage the donor process by being even more conservative with donors.

Many processes are aimed at reducing risk of a bad outcome, rather than reducing risk to the individual (eg tests are done to exclude people from donation/transplant, rather than to make decisions about how to provide a transplant).

There are also risks involved with repeating assessments unnecessarily. These riskscan be underappreciated, particularly the discovery of potentially irrelevant issues that generate more work and may cancel transplants.

Variability



Some variability in approach is desirable as it enables innovation and problem solving within referring centres and transplant units.

Visibility of variability in approach across New Zealand is desirable as it challenges clinical teams to review their approach.

Recommendations

In general, clinical/management teams should review their current DHB specific live donor and recipient assessment processes to ensure that these meet the following criteria:

- Maximise opportunities for kidney transplants
- Provide high quality care of donors and recipients
- Enable donor assessment in an optimum amount of time
- Ensure recipient assessments are aimed at minimising time on dialysis
- Processes value the time of donors and recipients

PART THREE – THE LIVE DONOR PROCESS

What does a Typical Live Donor Process look like?

Donors are easier to 'ring fence' as a process, because their entry and exit from Nephrology departments is well defined. Each potential donor makes an initial contact with the Coordinator and is then processed towards donation or is found to be unsuitable and departs. The process may end early at any point if a donor is found to be unsuitable or if he/she withdraws from the process, or at the point a kidney is donated.

The donor process consists of three phases; pre-assessment, assessment and transplant planning for donation:

Donor Phase	Perimeters 	Key components 
Pre - assessment	○ Starts with first contact with department ○ Ends with selection to start assessment ○ All pre-assessment is done in referring centre	○ Broad information provision to donors ○ Screening questions ○ Patient decision to proceed ○ Clinical decision to offer assessment
Assessment	○ Starts with initial screening tests ○ Ends with multidisciplinary meeting (MDM) acceptance of donation (at transplant unit) ○ Straddles referring centre and transplant unit	○ Testing, dependent on a range departments ○ Clinical review by doctors (referring and/or transplanting centre employees) ○ Multidisciplinary team meeting ○ Specific information to enable informed consent ○ Risk threshold acceptance (team and donor)
	○	○
Transplant Planning for Donation	○ Starts with MDM acceptance of donor AND recipient ○ Ends with donation of kidney ○ Mostly transplant unit BUT requires information from referring centre(s) and other agencies eg New Zealand Kidney Exchange (NZKE)	○ Optimal timing of transplant (immediately / delayed related to clinical requirements of recipient) ○ Workload planning (transplants to do vs available resource) ○ Logistics including travel ○ Admission processes ○ Final check for donor ○ In hospital care including surgery

Transport Analogy - Donors

	Enquiry and Pre-assessment	Assessment	Transplant Planning for Donation
			
Transport Analogy	*Train station (open, easy to get in and out of, informative, no compulsion, user friendly, but a gateway to pass through if you're going to the next stage)*	*Train journey (commitment at the start, speedy, efficient, always the same route, predictable)*	*Airline manufacture (coordinated completed production just in time for delivery)*
This lane shows the IDEAL DONOR process.	○ Easily and variably accessible ○ Donor driven ○ Readily variable ○ Broad entry ○ Easy out ○ May just visit and not take a train ○ 'Narrow' controlled exitMoving to next step involves commitment (a ticket)	○ Quick ○ Reliable ○ Non-variable (unless clinical need) ○ Timely ○ Low failure rate (most get to the next stage) ○ Efficient use of time (patients) and available resource ○ Costly but highly valuable ○ Degree of commitment from donor to enter	○ Ideally, complete just in time ○ Minimise numbers and time in this phase ○ Communication to enable planning ○ Visibility (Transplant DHBs) ○ Capacity planning

KEY PRINCIPLES OF THE DONOR PROCESS

1. Donor pre-assessment

This phase is about deciding to assess a potential donor. A donor decides to offer him/herself for assessment. The clinicians decide to offer assessment or not.

Information should be easily accessible, understandable and responsively provided.

Donor information needs to be provided in multiple channels and in different ways to maximise recruitment of potential donors, including online, written and face-to-face communication with knowledgeable individuals with excellent communication skills and training in providing information to donors.

Key principles

For donors and staff, the decision to proceed is appropriately influenced by the donor's likely medical suitability after a screening assessment, and consideration of the basic information about donation by the donor.

For donors and staff, the decision to proceed is also appropriately influenced by factors unrelated to the donor's medical suitability to donate, including recipient factors and the availability of other potential live donors.

More people enter this 'offering to donate' phase than the next 'accepted for pre-assessment' phase. The optimal proportion entering assessment is not known, but might be somewhere between 20-50%.

Focussing on increasing donor recruitment may increase donors entering pre-assessment but is likely to reduce the proportion of people entering assessment. This is because in the absence of efforts to encourage entry to pre assessment, those who present offering to donate are likely to be highly motivated, and therefore may be more likely to complete assessment.

The decision to proceed can be complex in a significant number of cases, and may be best made in conjunction with a doctor with a high level of experience in donation and transplantation. This may prevent wasted assessments, and, if there is more than one potential donor, to ensure the most suitable person is assessed.

Screening of donors should include all available information on them including electronic records held at DHBs.

Donors should be aware that they are in pre-assessment in this phase, and what the goals are:

- **Donor:** decides if he/she actually wants to be assessed and donate a kidney
- **Renal Service:** declines people who should not be assessed and/or select most suitable person from those offering to be assessed for an individual recipient.

Duration of this phase should vary based on donor needs (eg time to appropriately consider information may be days, weeks or months).

In some circumstances (eg large families, multiple potential donors, highly sensitised recipient) this pre-assessment phase can be complex and may involve elements that are more usually part of the assessment phase (eg clinic visits, cross matches, genetic testing, imaging tests).

Donors who do not proceed require appropriate care. This may include further discussion and support, and referral to other health services.

''Symptoms'' of possible problems in Donor pre-assessment phase

- Low live donor rates
- Low pre-emptive live donor transplant rate (ie donors come forward after people have started dialysis)
- High 'start' rate for people who make contact (i.e. only highly motivated people can find their way to the information)
- Low 'start' rate for people who make contact (ie lots of inappropriate people being encouraged to come forward)
- Recipients with large social/support networks and no live donor in assessment
- Large numbers of possible donors undecided about proceeding
- High numbers of donors 'in assessment'
- Long assessment times for donors (QIMs)

2. Donor Assessment

Key principles

Assessment is potentially harmful to donors and consumes health resources. It should only commence where there is a high likelihood of donation proceeding.

Donors should be **aware** that they are commencing assessment and the processes and timeframes involved.

Duration of this phase should be minimised. Donors entering this phase should be very likely to want to donate if the assessment is completed successfully, and well aware that they can withdraw at any point, so repeated checking that they are happy to proceed is unnecessary.

Completion of assessment should be aimed at minimising recipient time on dialysis, including facilitating pre-emptive transplantation where possible.

Completion of assessment too far in advance of donation and therefore necessitating repeat assessment is only wasteful. Delay in commencing assessment is appropriate in some cases (for example, where there are other donors in assessment, or where the recipient is still a long way away from requiring transplantation).

Testing for donors should be prioritised by DHBs as substantial benefits to recipients (and funders) accrue where a live donor transplantation proceeds.

Requirements for testing of donors are those recommended by the NRTLT. See Guidelines for the Evaluation of Living Kidney Donors in NZ.

No other testing should be routinely required, but additional testing may be necessary where clinically indicated.

Generally, order of assessment components should follow an agreed script BUT should be freely varied based on clinical decision making by the local coordinator and nephrologist, in consultation with the transplant unit where required.

Coordinators oversee the process ensuring steps are undertaken in appropriate order, but simultaneous ordering of multiple tests for an individual donor in assessment is often appropriate and minimises waits.

Negotiating a 'standing order' for donor assessment tests within supporting departments (that can be reallocated to inpatients, or other urgent cases if the appointments are not required for donors) is a valid and efficient way of improving waiting times for assessments. This requires good understanding of the requirement of timely assessments for donors by the supporting departments (otherwise they will not agree to this). Careful management is needed to avoid 'wasting' slots by ensuring donors are well motivated and available for assessments, and by ensuring that only donors selected for assessments are allocated to assessments.

Nephrologists at referring centres need to advocate for their assessment programmes to ensure that their DHBs provide access to required assessments.

Nephrologists at referring centres should ensure that donor assessment requirements of transplanting centres are appropriate in their view. Where there are differences of opinion, these should be resolved by careful discussion between donating and transplanting centre SMOs.

Nephrologists at referring centres should be prepared to advocate for alternative testing strategies where there are local organisational reasons why other testing may be more efficient and/or effective.

Where there are temporary issues with availability of testing due to service constraints, local SMOs should seek alternative solutions, including seeking support for funding testing in the private sector or via the transplanting DHB.

Where there is uncertainty about the suitability of a donor, early discussion with the transplanting centre is important.

There should be agreed and clear communication pathways with documentation of discussions between referring and transplanting centre teams. Decisions must be recorded in the clinical record. It is the referring centre's responsibility to manage their donors until they are referred for formal consideration by the transplant unit's multidisciplinary team (MDT), including ensuring that any visiting transplant unit SMOs who need to see the patient do so in a timely way.

Where there are backlogs of donors to be seen by transplant unit SMOs, referring centres should request additional clinics and/or arrange for selected donors (eg those with recipients on dialysis or nearly ready for pre-emptive transplant) to travel to the transplant unit for review.

''Symptoms'' of possible problems in donor assessment phase

- Long average assessment times
- Low success rate for those who start assessment
- Long waiting times for individual component tests (eg radiology)
- High numbers of donors in assessment per coordinator FTE
- Failure of assessment due to previously known health issues

3. Donor Transplant Planning for Donation

Key principles

Donor assessment is completed when the transplant unit agrees that the donor is suitable to proceed.

Completed donors should not undergo medical reassessment prior to donation unless there has been a change in their health status or substantial time has gone by since acceptance (eg 1 year).

Donation should proceed as soon as the recipient is ready (including having reached the point of requiring the transplant where assessment has been undertaken prior to dialysis starting) and the donor is available (including non-clinical issues, for example, having secured time off work).

Where a pre-emptive transplant is the aim and the recipient does not yet require transplantation, there should be urgent notification of changes in recipient and/or donor status or availability and is the responsibility of the referring centre.

Routine meetings between coordinators (eg via teleconference) from referring centres and transplanting units, including brief discussion of all previously accepted donors, may assist in timely arrangement of donation and transplantation.

Donors who donate should receive follow-up from their referring centre.

'Symptoms' of possible problems in donor transplant planning phase

- Requirement for repeat testing for donors prior to donation
- Delays in ready to transplant time (currently measured by the National Renal Transplant Service as Quality Improvement Metric (QIM) 1)
- Dialysis commencement in patient with completed live donor available
- Unused Live Donor transplant operation times at transplanting units

PART FOUR – THE RECIPIENT PROCESS

What does a Typical Recipient Process look like?

Recipients are often part of Nephrology departments for months or years prior to requiring a decision about transplant assessment.

The recipient process consists of three phases; decision about transplant assessment, assessment and transplant planning OR Deceased Donor list maintenance.

Recipient Phase	Perimeters 	Key components 

Decision about Transplant Assessment	○ Starts at the point a patient is referred for dialysis (or ESKD treatment) education.
	○ Ends when a decision is made by a nephrologist (usually in consultation with the patient) to:
	  ○ Start assessment for transplant now
	  ○ Not assess for transplant at any point
		○ This phase can therefore be very short (days), or may take a long time and is undertaken in the referring centre, but involving the transplant unit where necessary.
		○ A comprehensive method for identifying all patients entering ESKD decision making pathways is required
		○ Nephrologist decision making for each patient
		○ Communication to transplant coordinators
		○ Documentation of decisions
		○ Appropriate recall of patients with decisions to delay
		○ Occasionally, 'not for transplant assessment' can be reversed at any point

Assessment	○ Starts with initial screening tests ○ Ends with MDM acceptance for transplantation(at transplant unit) ○ Straddles referring centre and transplant unit	○ Testing, dependent on a range departments ○ Standardised testing order designed around clinical requirements and efficiency ○ Variance of testing based on clinical need ○ Clinical review by experts doctors/coordinators/allied health (referring and/or transplanting centre employees) ○ Multidisciplinary team meeting ○ Specific information to enable informed consent

Recipient Phase	Perimeters 	Key components 
		○ Risk threshold acceptance (team and recipient)
Transplant Planning OR Deceased Donor List Maintenance	○ Starts with MDM acceptance of donor AND recipient (Live Donor transplant) OR recipient only for Deceased Donor (DD list) ○ Ends with transplantation of kidney ○ Referring centre coordinator manages their patients on DD list ○ Transplant centre coordinators manage live donor process	○ Deceased Donor List: ○ Accurate and timely transfer of information about recipient to NZBS ○ Monthly blood samples for transplant testing ○ Communication of changes in status to New Zealand Blood Service (NZBS)/transplant unit by referring centre ○ Arrangement of repeat testing/review at intervals (defined by transplant unit) ○ Live Donor Transplant ○ Accurate and timely transfer of information about recipient to NZBS +/- NZKE +/- MOH (LD funding) ○ Communication of changes in status (eg progression to requirement of transplant for pre-emptive transplants) to transplant unit ○ Scheduling of pairs (and relative timing) ○ Travel and logistics planning (social work support) ○ IF overseas based donor, financial support from DHB for LD travel and accommodation ○ Admission process and final check **Common to both Live Donor and Deceased Donor List** ○ Optimal timing of transplant (immediately, delayed related to clinical requirements of recipient) ○ Workload planning (transplants to do vs available resource) ○ Logistics including travel for recipient ○ Admission process for recipient ○ In hospital care including surgery

Analogies – Recipients

	Decision to assess	Assessment	Transplant Planning
Process Analogy	 ***Mail sorting***	 ***Riding in a London Taxi***	 ***Air Traffic Control***
	High volume, quick, reliable decisions	**Predictable journey, expertly navigated, short as possible but flexible to cope with needs**	**Coordinating movement of multiple different planes safely simultaneously**
This lane shows the IDEAL RECIPIENT process	○ Universal – all are considered for assessment ○ Delay ok if delivery not required yet ○ Recall delayed ○ Objective as possible ○ Explained ○ Reviewable if ''no'' ○ Firm where inappropriate	○ Quick (as possible) ○ Standardised but flexible ○ Find another way where there are blocks ○ Skilled navigator ○ Sometimes lets people out early ○ Radio for help if required ○ Costly but valuable ○ Recipients may get off for a bit and attend other things…	''Land immediately'' (live donor available); ''Keep in holding pattern'' (deceased donor list) ○ Communication ○ Regular updates ○ Routine checks (eg tray)

KEY PRINCIPLES OF THE RECIPIENT PROCESS

1. Decision to Assess Recipient

Key principles

Transplantation is an uncommon event within any nephrology department, even those with high transplant rates or numbers (most patients with chronic kidney disease (CKD) will NOT be transplanted).

Unless their nephrologist thinks about transplantation for a patient with CKD, he/she will not receive a transplant.

Everyone who reaches ESKD should therefore expect to have a **considered decision** from a nephrologist (an expert in the risks and benefits of kidney transplant, and the assessment process) about their suitability for assessment.

Uniform consideration is important to avoid overlooking opportunities to transplant patients, and challenges the health system to find a way to provide transplant for patients for whom a more traditional approach has under delivered, for example, Maori and Pasifika.

NRTS QIM3 measures the proportion of ESKD patients who receive a nephrologist's decision about transplant assessment – the target is 100%.

Avoiding assessment for unsuitable patients is important to avoid false hope and waste of resources.

On the other hand, assessing marginal patients is important to ensure patients who may be difficult to transplant but would benefit are able to receive transplants.

Decision making around whether or not to assess can be difficult and can be informed by early discussion with the transplant unit.

Documentation of the decision involves non-transplant staff (eg pre dialysis educators) at most DHBs.

Consciously delaying making a decision about transplant assessment is valuable and appropriate in some patients.

DHBs need a system for returning the delayed decision patients for further consideration at the appropriate point.

Patients and clinical teams should be clear about the decision and the reasons for it, and these should be documented in the clinical record.

Some patients who want to be considered for transplant are medically unsuitable and should not undergo assessment.

A small number of patients are suitable for live donor only. They will need assessment only where there is a live donor available or in assessment.

Potential recipients are a subset of the patients under management in the individual nephrology department.

The decision to assess should be taken at a time point early enough in the disease course to enable completion of assessment prior to dialysis requirement and pre-emptive transplantation where appropriate.

Decisions about patients who are clearly not suitable for assessment should be recorded.

Transplant assessment should not act as a barrier to other important care, especially dialysis planning - some patients who may otherwise be suitable for transplant assessment may be better served by delaying commencing assessment until after commencing dialysis.

Early assessment especially in patients with slowly progressive CKD runs the risk of identifying people who are suitable for transplant at the time of assessment, but who are not by the time they reach ESKD – this is wasteful of resources and provides false hope for patients.

A decision to assess or not is never final and can be reviewed at any point.

A decision to assess or not should involve a discussion with the patient in most cases, but always when an assessment will be undertaken.

Symptoms of possible problems in decision to assess recipient phase

- Low transplant rate
- Low pre-emptive (ie transplantation without prior dialysis) live donor transplant rate
- Low pre-emptive listing rate (ie listing for deceased donor kidney transplantation prior to dialysis commencing)
- High proportion of ESKD patients in assessment (may reflect inappropriately high rate of assessment of marginal potential recipients OR problems with capturing ESKD population who are not going to be assessed)
- Low proportion of ESKD patients in assessment (may reflect inappropriately low rate of assessment of marginal potential recipients)
- Long assessments
- High or low proportion of successful assessments

2. Recipient Assessment

Key principles

Assessment should be **as quick as possible** for recipients on dialysis to minimise time to listing.

Assessment should be **timely** to aim at pre-emptive transplant or listing for recipients not on dialysis. Sometimes a delay in assessment start is appropriate (to prevent long assessment or need for reassessment).

There need to be sufficient transplant coordinators to handle the work. A suggestion is one FTE per 20 recipients in assessment (to cover donor and recipient work for them).

There should be a proportion of people in assessment per new dialysis starts in a unit. For example, for every 100 people who start dialysis in a unit, around 20 to 40 should undergo assessment. The proportion will depend on a number of factors including population comorbidity, live donor availability, dialysis rate and pre-emptive transplantation rate.

Local nephrologists need to be well engaged with their transplant unit to make sure they are able to advocate for acceptance for appropriate but marginal recipients, but also to appropriately stop assessments early for potential recipients who are inappropriate for transplant.

DHB support services (eg radiology, cardiology) need to be responsive to requests where timely decisions about suitability are needed.

Nephrology services need to avoid wasting support services by stopping inappropriate assessments.

Transplant units need to provide timely decisions about completed assessments.

Transplant units need to understand referring unit pressures and make recommendations about assessments in light of available resources. It may be appropriate to recommend alternative assessment strategies.

Assessment for transplantation is not benign as it consumes health resources, may identify health issues for which treatment is recommended without clear benefit to the patient and raises hopes of transplantation (which can be devastating if the patient is not found appropriate for transplantation).

Assessments sometimes need to be suspended where there is uncertainty about the response to any treatment or where the progression of the underlying kidney disease (and therefore the timing of any transplant) is slower than first expected.

Recipient assessment is largely about defining risk of a poor outcome, and, where that risk is too high, of avoiding transplantation. Where there are clear and known potential barriers to transplantation it may be appropriate to define the impact of that condition first prior to completion of other routine assessment steps. A good example of this is potential recipients with prior cancer, where it would be appropriate to seek advice from their oncologist and discuss that with the transplant centre early in the assessment.

Recipient assessment may identify disease that it is unclear how to treat (which may be inherently harmful/wasteful).

The benefit of transplantation is such that accepting higher risk transplantation (compared to no transplantation) is likely to be beneficial to the individual in some circumstances.

There is a natural human decision making bias likely to be present in decision makers (loss aversion), and reporting structures (like ANZDATA providing feedback on transplanted patient survival) that heighten this tendency to avoid taking risk (proceeding with higher risk transplants) where there are defined increased risks for individual patients. Transplant units need to be aware of this so as to prevent withholding transplantation from individuals who may benefit substantially.

Poor outcomes for individual transplants do affect risk appetite subsequently.

Shared decision making (ie MDTs) can function to support proceeding with higher risk transplants, or can work against this.

The second function of recipient assessment is provision of information (aimed at informed consent, encouraging identification of live donors, and improving adherence to subsequent treatment).

The majority of recipients require a standardised approach based on their characteristics at baseline.

Symptoms of possible problems in recipient assessment phase

- Long overall assessment times
- Low success rate for those who start assessment (should be high, eg >50%)
- Long waiting times for individual component tests (especially radiology)
- High or low numbers of recipients in assessment per dialysis start
- Failure of assessment due to previously known health issues (should be identified and clarified with SMO/Treatment Centre before assessment undertaken).

3. Recipient Transplant Planning

Key principles

Timing of transplant (LD Pair) should be primarily determined by recipient clinical need and be aimed at minimising time on dialysis.

DHB of domicile should not affect the probability of pre-emptive transplantation within a transplant Unit.

Clear and ongoing communication between referring and transplanting centres is key to managing people on the Deceased Donor list or awaiting Live Donor transplant.

Transplant units need to trust that referring centres will monitor the health of donors and recipients appropriately and communicate any relevant changes in health status.

Repeat testing of recipients at intervals should be evidence based.

Symptoms of possible problems in recipient transplant planning phase

- Requirement for repeat testing for recipients prior to transplant urgently
- Transplants not proceeding due to recipient ill health at short notice
- Delays in ready to transplant time (QIM1)
- Dialysis commencement in patient with completed live donor available
- Lost theatre access due to cancellation of Live Donor transplants.

Recipients may have to comply with health requirements (eg avoiding smoking, attending dialysis treatments, taking medications) to maintain their suitability for transplant while waiting for a deceased donor.

It is difficult for patients to comprehend the breadth of testing that is required prior to transplantation, and they need ongoing support and information to navigate this path.

Coordinators need to juggle the needs of all recipients in their case load to achieve timely assessments. This requires information management skills, clinical skills, organisational skills, and support (eg appropriate IT infrastructure).

Why delaying a decision about recipient assessment may be appropriate

- Where the timing of progression to ESKD (and thereby the requirement for transplant) is expected to be prolonged
- Where a known condition that is material to the suitability for transplant requires treatment or observation for a period to determine suitability for assessment (eg a malignancy)
- Where the process of assessing the recipient for transplant is burdensome or harmful to the recipient at that time point
- Where the recipient is not available for attendance at elements of assessment
- Where the recipient is not willing or prepared to undergo assessment

Why not assess everybody with ESKD?

- Assessing unsuitable patients can lead to false hope and waste of resources.
- Some patients who want to be considered for transplant are medically unsuitable and should not undergo assessment.
- Some patients are suitable for live donor only and will need assessment only where there is a live donor available or in assessment.
- Potential capacity issues for renal staff and services and for support services eg radiology.

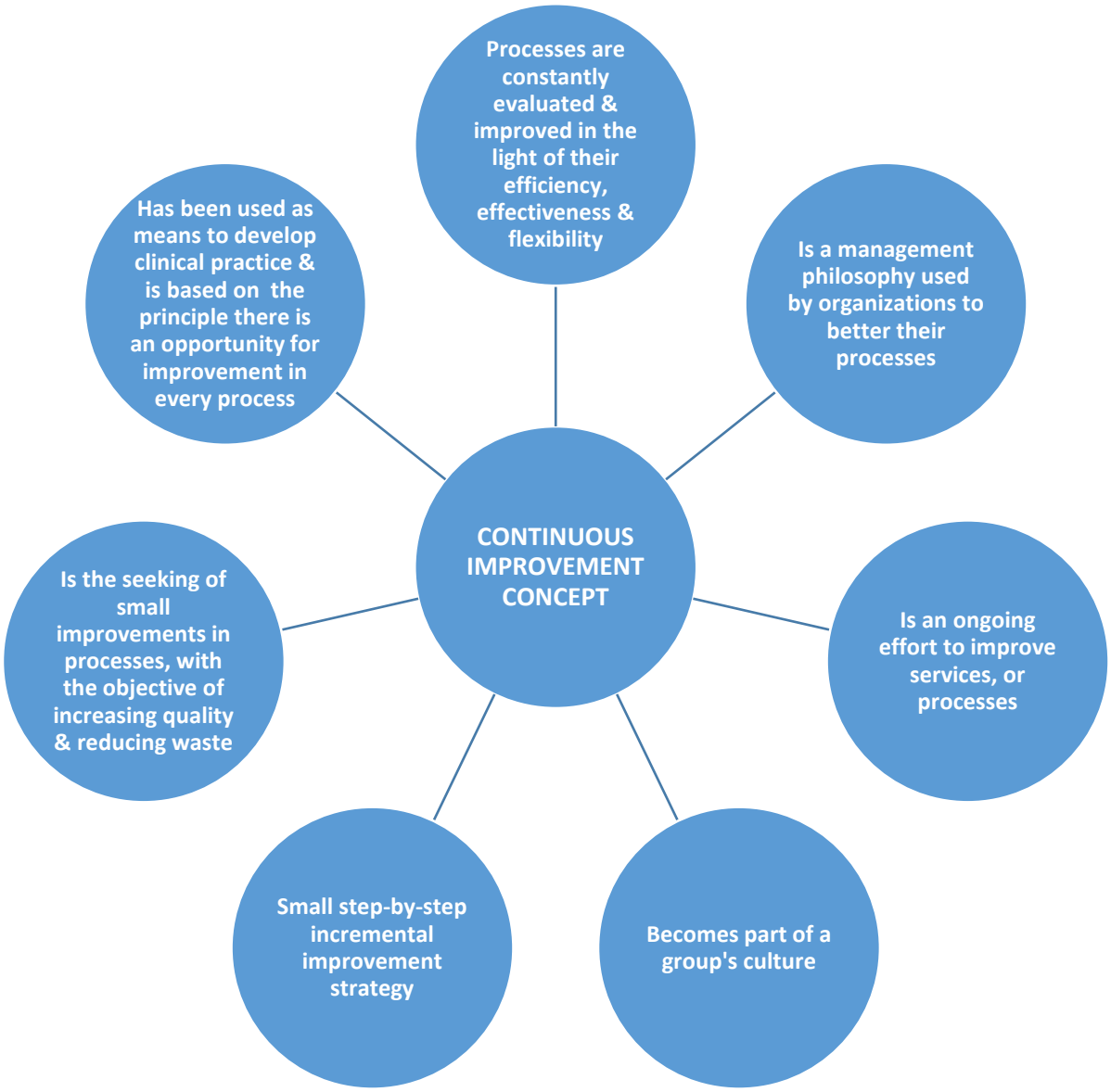
PART FIVE – CONTINUOUS IMPROVEMENT CONCEPT

General Guidance on Continuous Improvement

This section covers:

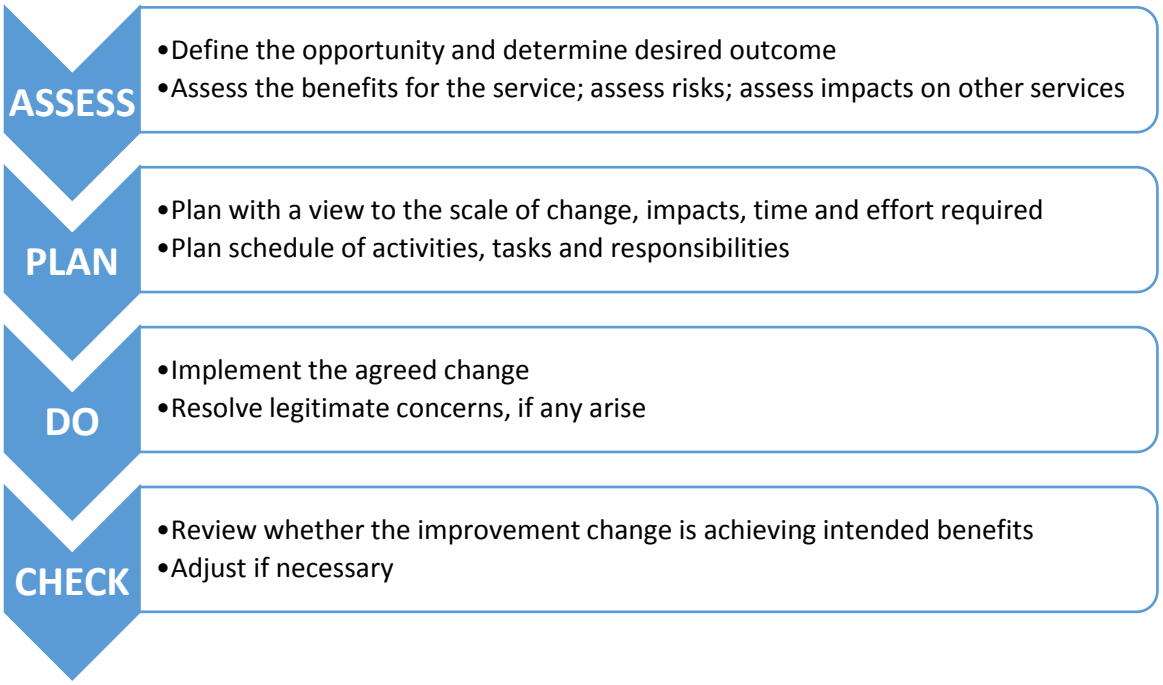
- Understanding the concept of continuous improvement
- How to identify and assess an issue and make it an opportunity for improvement
- How to plan the desired change
- How to implement a change
- How to check if there has been improvement

What is a continuous improvement process?



Concept

Many opportunities to make an improvement can be planned using this general model:



Assess

Identify and assess an issue and then make it an opportunity for improvement

1. Define the opportunity:
    a. Describe the issue and the current impact on the service
    b. Detail data or perception that validates the opportunity
    c. Refer to the process maps
    d. List the people or groups impacted taking an opportunity to change
2. Determine desired outcome:
    a. What do you want?
    b. What does success look like?
    c. What do you not want?
    d. What do you want that is different?
3. Assess costs, risks and adverse impacts.

Plan

Plan schedule of activities, tasks and responsibilities

1. Create a desired timeline:
    a. Divide into quarter of the year if necessary
2. Plan high level activity:
    a. Tasks
    b. Responsible person
    c. Resourcing
    d. Liaison with other departments
    e. Start – end dates

Do

1. Arrange an initial meeting involving all of the people with tasks in the plan.
2. Ensure everyone understands what they need to do, by when and how this contributes to the overall opportunity.
3. Ask the group what questions or concerns they have and listen to these.
4. Try to resolve legitimate concerns.
    a. If the concerns cannot be resolved consider reworking the plan and schedule phase.
5. Arrange regular meetings with the group to review progress.
6. Have the team update the progress report before these meetings.

Check

1. Meet with the team regularly to monitor progress.
2. If progress is slower than planned find out why and try to reverse the trend.
3. Review the data to see if intended benefits are being achieved.

PART SIX- MAKING IMPROVEMENTS – Worked Examples

1. Improve Low Pre-emptive Live Donor Rate

If these aspects are **issues**

Timeliness	Visibility	Resources
○ Few pre-emptive assessment commenced ○ Few pre-emptive assessments completed ○ Transplanted assessment not commenced pre-emptively ○ Lack of coordination of donor assessment with recipient needs	○ Few live donors coming forward ○ Low visibility of live donor transplant among recipients	○ High workload for coordinators

Then consider these **strategies** for improvement

Improve timeliness	Improve visibility	Improve resourcing
○ Ensure all ESKD educated patients have a decision about assessment ○ Start transplant assessment for those with live donors in time ○ Prioritise completion of assessment in line with recipient's needs ○ Document decisions in clinical letters	○ Highlight benefits of live donation to recipients systematically ○ Arrange group sessions ○ Arrange home based education	○ Ensure sufficient staffing to process donors in a timely way

Outcome:
Improved Pre-emptive Live Donor Rates

2. Improve Long Donor Assessment Time

If these aspects are **issues**

Timeliness	Resources	Support
○ Insufficient prioritisation of donor tests ○ Commencing assessment too soon (eg more than a year before recipient renal replacement therapy) ○ Sequential ordering of tests rather than batch ordering ○ Donor availability for testing (work commitments, remoteness from test centre) ○ Waiting for appointments within nephrology department (eg lack prioritization for donors; capacity)	○ Too many people in assessment per donor liaison coordinator ○ Challenging/unsuitable donors remaining in assessment when known to be unsuitable ○ Poor resourcing of departments providing test (eg psychology) ○ Insufficient visiting transplant service assessment slots ○ Additional testing requests from transplant unit after assessment ○ Non clinical technology-related process delays (eg typing delays, mail delivery times, and resending lost mail) ○ Insufficient or overly fragmented coordinator time	○ Lack of variability of standard assessment in unusual clinical circumstances ○ Lack of support or engagement from local nephrologists with assessment process

Then consider these **strategies** for improvement

Improve Timeliness	Improve Resourcing	Improve Support
○ Arrange regular routine meeting with local SMO to discuss donors entering and in assessment ○ Liaise with supporting services to establish regular test slots for donors ○ Monitor time in assessment and review time lines by patient	○ Review coordinator workload/FT relative to workflow ○ Introduce one stop shop visits for remote donors including multiple tests on single days	○ Pre-format letters to be generated by coordinators ○ Increase secretarial support ○ Establish electronic communication/referral pathways not requiring typing support/letters

Outcome:
Shorter Donor Assessment Times

3. Improve Low Donor or Recipient Assessment Failure Rate

If these aspects are **issues** (where almost everyone who is assessed completes assessment)

Selection	Visibility	Resources
○ Conservative start policy (only investigate very likely candidates)	○ Unclear pathway entry ○ Low potential donor contacts per patient ○ Difficult engagement process (eg highly donor/recipient driven ○ Lack of appropriate donor encouragement ○ Poor integration with transplant programme leading to lack of awareness of current acceptance criteria and transplantation options (eg kidney exchange, ABOi)	○ Lack of assistance for recipients with low health literacy to identify donors ○ Lack of coordinator time

Then consider these **strategies** for improvement

Improve selection	Improve visibility	Improve resourcing
○ Less conservative start policy	○ Promotion of live donation at CKD/dialysis clinics	○ Increase coordinator time ○ Increase engagement with transplant centres (SMO/Coordinators)

Outcome:
More Donors and Recipients Assessed
(with acceptable increase in failure rate)

4. Improve High Donor or Recipient Failure Rate

If these aspects are **issues**

Selection	Communication
○ Prolonged assessment time	○ Lack of appropriate screening at start of process (eg script of questions, process to access GP/hospital records ○ Poor SMO support of coordinator ○ Poor integration with transplant programme leading to lack of awareness of current acceptance criteria and transplantation options (eg kidney exchange, ABOi)

Then consider these
strategies for improvement

Improve Selection	Improve Communication
○ Reduce assessment time (see example 2)	○ Formalised screening questionnaires (telephone, face to face) ○ Review of electronic clinical record and GP contact prior to commencing assessment (including donor consent for this) ○ Regular meetings between SMO/coordinator to discuss donors entering assessment ○ Engagement with transplantation centres (SMO/coordinators)

Outcome:
Fewer Donor or Recipient Failures

Specific Example of Changes for Improvement (Northland DHB)

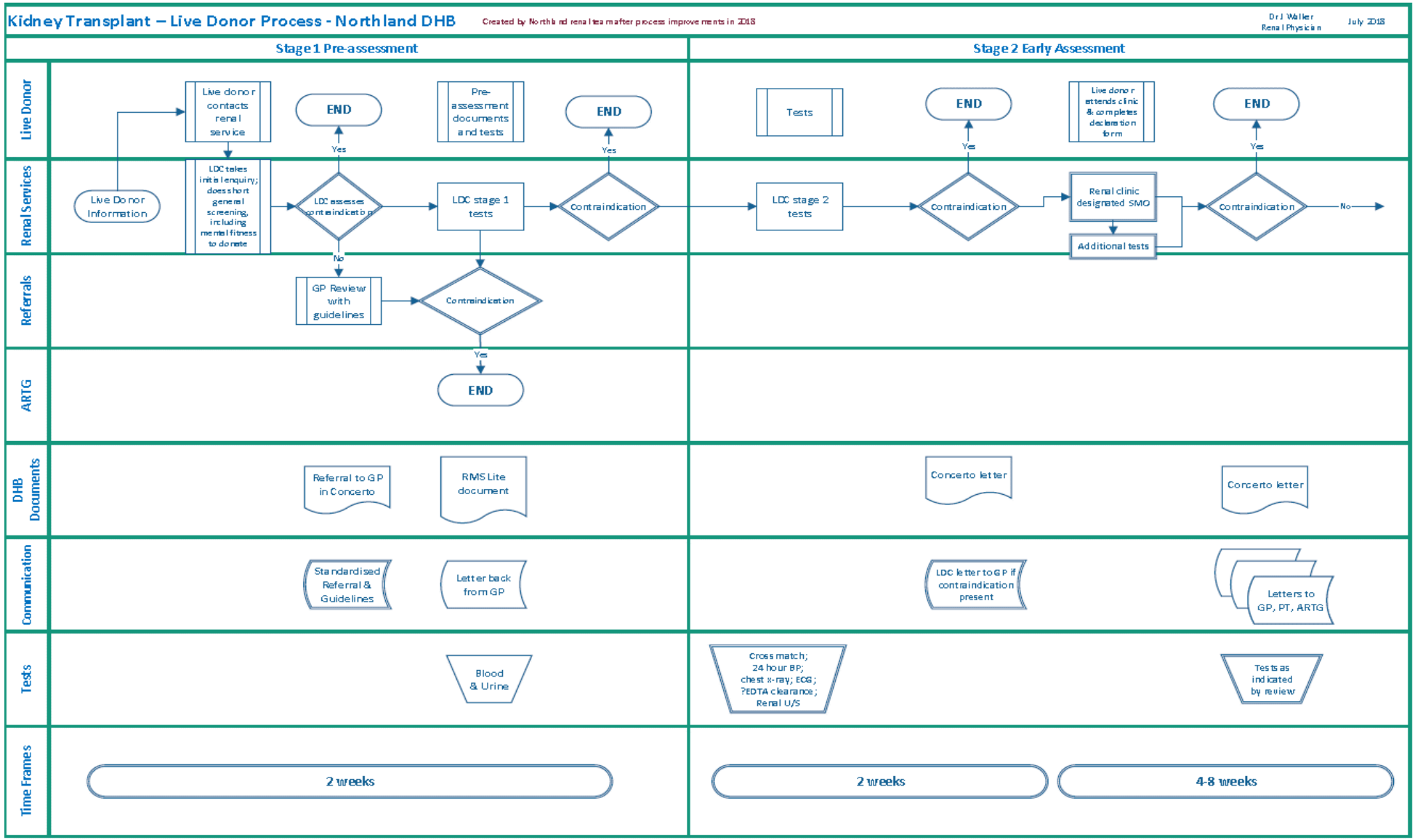
Live Donor Process Map

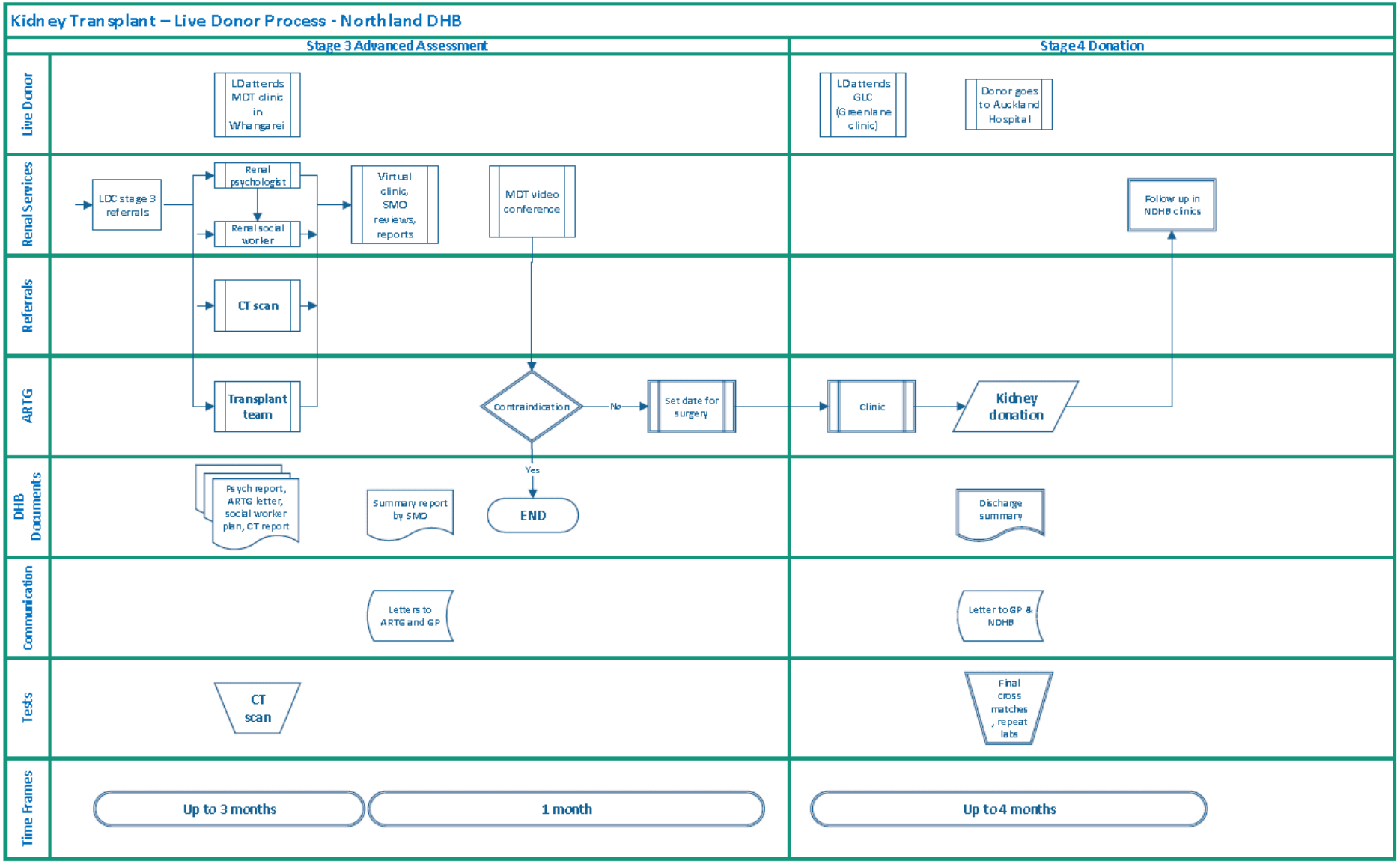
As mapped after Northland team made changes for improvement

Changes to note:

The focus of the new map was to:

1. Involve the GP early in the process to reduce unnecessary evaluation and promote seamless care across primary and secondary services
2. Standardise practice across our team to enable clarity and equity for the donor
3. Cluster investigations and visits to increase efficiency
4. Balance efficiency and cost to enable the best use of resources


Kidney Transplant – Live Donor Process - Northland DHB
Created by Northland renal team after process improvements in 2018
Dr J Waller Renal Physician
July 2018
Stage 1 Pre-assessment
Stage 2 Early Assessment
Live Donor
Renal Services
Referrals
ARTG
DHB Documents
Communication
Tests
Time Frames
Live donor contacts renal service
END
Pre-assessment documents and tests
END
Tests
END
Live donor attends clinic & completes declaration form
END
Live Donor Information
LDC takes initial enquiry; does short general screening, including mental fitness to donate
LDC assesses contraindications
Yes
No
LDC stage 1 tests
Contraindication
Yes
LDC stage 2 tests
Contraindication
Yes
Renal clinic designated SMO
Additional tests
Contraindication
Yes
No
GP Review with guidelines
Contraindication
Yes
END
Referral to GP in Concerto
RMS Lite document
Concerto letter
Concerto letter
Standardised Referral & Guidelines
Letter back from GP
LDC letter to GP if contraindication present
Letters to GP, PT, ARTG
Blood & Urine
Cross match; 24 hour BP; chest x-ray; ECG; ?EDTA clearance; Renal U/S
Tests as indicated by review
2 weeks
2 weeks
4-8 weeks


Kidney Transplant – Live Donor Process - Northland DHB
Stage 3 Advanced Assessment
Stage 4 Donation
Live Donor
Renal Services
Referrals
ARTG
DHB Documents
Communication
Tests
Time Frames
LD attends MDT clinic in Whangarei
LD attends GLC (Greenlane clinic)
Donor goes to Auckland Hospital
LDC stage 3 referrals
Renal psychologist
Renal social worker
Virtual clinic, SMO reviews, reports
MDT video conference
Follow up in NDHB clinics
CT scan
Transplant team
Contraindication
No
Set date for surgery
Clinic
Kidney donation
Yes
Psych report, ARTG letter, social worker plan, CT report
Summary report by SMO
END
Discharge summary
Letters to ARTG and GP
Letter to GP & NDHB
CT scan
Final cross matches , repeat labs
Up to 3 months
1 month
Up to 4 months

APPENDICES

Glossary

ABOi	ABO-incompatible (ABOi) transplantation is a method of allocation in organ transplantation that permits more efficient use of available organs regardless of ABO blood type, which would otherwise be unavailable due to hyper acute rejection.
ANZDATA	Provides feedback on transplanted patient survival.
Assessment	Often referred to as 'work-up'. Recipient work-up / assessment; Live Donor work-up / assessment. These involve tests and clinical assessments to determine suitability to donate or receive a kidney.
CKD	Chronic kidney disease is a type of kidney disease in which there is gradual loss of kidney function over a period of months or years.
Coordinator	Role can be designated Nurse Coordinator, Transplant Coordinator, Live Donor Coordinator or Donor Liaison Coordinator.
Cross-match	Testing for the compatibility of a donor's and a recipient's blood or tissue.
DD list	Deceased donor list.
DHB	District Health Board.
Dialysis service	Clinical service for providing the process of removing waste products and excess fluid from the body.
ESKD	End stage kidney disease; kidney failure, also called end-stage renal disease (ESRD), is the last stage of chronic kidney disease.
FTE	Full time equivalent (refers to a staffing position).
Highly sensitised recipient	A potential donor's tissue and blood types match perfectly but a transplant cannot proceed because the recipient has a highly sensitised immune system that would attack the transplanted kidney.
List	'The list' means: (Noun). The patients who are waiting for a deceased donor kidney transplant; a pool of potential recipients who have been through assessment and are eligible for deceased donor kidney transplantation. (Verb). Process to include a recipient on the deceased donor kidney transplant list after assessment, including MDT meeting.
MDM	Multi disciplinary meeting is a meeting of a group of professionals from one or more clinical disciplines who together make decisions regarding recommended treatment of individual patients.
MDT	Multidisciplinary teams may specialise in certain conditions, such as renal disease. Clinical decisions are made based on reviews of clinical

	documentation such as case notes, test results, diagnostic imaging etc. The patient is not present for transplant MDT meetings.
MOH	Ministry of Health.
Nephrologist with Transplant Focus	May be designated Transplant Nephrologist or not have a specific designation.
NRTS	National Renal Transplant Service leads and implements an agreed work programme to improve the volume of donor kidney transplants in New Zealand. It is part of the Ministry of Health's Leadership section and is identified as an Expert Group.
NZBS	New Zealand Blood Service.
NZKE	New Zealand Kidney Exchange.
Pre-emptive live donor kidney transplant	Pre-emptive kidney transplantation (PKT) refers to transplantation before the initiation of chronic maintenance dialysis. A donated kidney can come from a living donor or a deceased donor. Pre-emptive transplants are usually from living donors.
Referring Centre	The DHB renal service where the recipient / donor undergoes the assessment process. Referring centres send their (worked up) recipients / donors to a Transplant Unit for transplant surgery.
SMO	Senior Medical Officer.
Surgeon	Kidney transplants are performed by vascular surgeons and urological surgeons.
Transplant unit	In New Zealand transplant centres are in Christchurch, Wellington and Auckland. These hospitals have multidisciplinary teams available for care of donors and recipients including undertaking donor and transplant procedures and immediate after care.
Work up	'Work up' is a term used for a complete medical examination including assessments and tests, medical history, physical exam, lab tests, x-rays and analyses.

Work sheet templates

Use the following worksheets to record your activity:

Scroll or use the quick links to find the worksheets.

1. Assess
   Identify and assess an issue and then make it an opportunity for improvement

2. Plan
   Plan schedule of activities, tasks and responsibilities

3. Do
   Set up a meeting

4. Check
   Monitor progress on a regular basis

1. Assess

Identify and assess an issue and then make it an opportunity for improvement	
1. Define the opportunity	
a. Describe the issue and the current impact on the service	
b. Detail data or perception that validates the opportunity	
c. Refer to the process maps	
d. List the people or groups impacted taking an opportunity to change	

2. Determine desired outcome	
a. What do you want?	
b. What does success look like?	
c. What do you not want?	
d. What do you want that is different?	
3. Assess costs, risks and adverse impacts	

2. Plan

Plan schedule of activities, tasks and responsibilities	
1. Create a desired timeline	
Divide plan into quarters of the year if necessary	
	Quarter #
	Quarter #
	Quarter #
	Quarter #
2. Plan high level activity	
a. Tasks	b. Responsible person

c. Resourcing	
d. Liaison with other departments	
e. Start – end dates	

3. Do

1.	Arrange an initial meeting involving all of the people with tasks in the plan
2.	Ensure everyone understands what they need to do, by when and how this contributes to the overall opportunity
3.	Ask the group what questions or concerns they have and listen to these
4.	If concerns cannot be resolved consider reworking the plan and schedule phase
5.	Arrange regular meetings with the group to review progress
6.	Have the team update the progress report before these meetings

Sample agenda

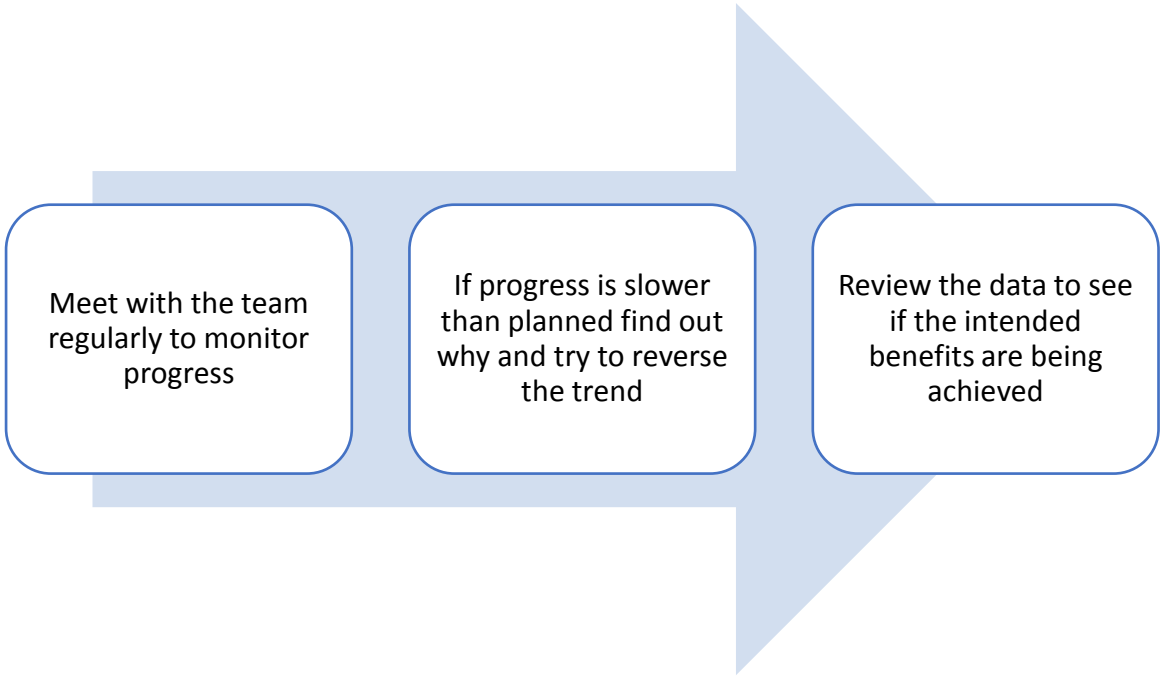
Meeting:	
Date:	
Time:	
Location:	
Attendees:	
Apologies:	

Time		**Agenda item**	**Responsible**
	1.		
	2.		

Sample progress report

Tasks completed or started since the last review/meeting	**Next immediate steps:**
Risks/concerns/issues	

3. Check


Meet with the team regularly to monitor progress
If progress is slower than planned find out why and try to reverse the trend
Review the data to see if the intended benefits are being achieved

Document Production

Dr Nick Cross	Clinical content
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December 2018	Revisions to incorporate feedback comments (Strategic Group)

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Disclaimers

1. There is very little published evidence to guide improvement in live donor and recipient practices. The views in this document are therefore largely opinion based, and represent the views of the National Renal Transplant Service and the National Renal Transplant Leadership team. Errors and omissions are expected and are the responsibility of the authors rather than the DHB's services.

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