Renal transplant

Costing extension (formerly CA4)

Contents

Renal transplant

Purpose: To ensure adult renal transplants are costed in a consistent way.

Objective

1. To ensure all costs incurred in delivering adult renal transplant activity are identified and allocated to the correct patient event.

Scope

2. This standard should be applied to all parts of the adult renal transplant and live donor patient pathway performed by your organisation.

Overview

3. Kidney transplantation is the ideal renal replacement therapy for patients with end-stage kidney disease.

4. Transplantation can be performed with a kidney from a living or deceased organ donor and has been successfully done in the UK since the 1960s.

5. The outpatient assessment to determine suitability for transplant listing takes place in transplant or specialist renal centres.

6. The inpatient transplant episode takes place in kidney transplant centres.

7. The follow-up of transplant patients takes place in transplant or specialist renal centres and continues for as long as the transplanted organ functions.

8. The pathway for living kidney donors mirrors the above pathway for transplant recipients, with the assessment and follow-up taking place in the transplant or specialist renal centre, and the live donor nephrectomy in the transplant centre.

Approach

Identifying the activity

9. You need to understand the care pathway for a renal transplant and live donor nephrectomy, so you can identify the activity and all the associated costs. This standard focuses on the four elements of the renal transplant recipient care pathway, and the three elements of the live donor nephrectomy pathway.

10. The elements of the recipient pathway are:

    - assessment to determine suitability for the procedure
    - maintenance while waiting for the procedure
    - transplant procedure
    - post-transplant care.

11. The elements of the live donor pathway are:

    - screening and assessment to determine suitability for the procedure
    - live donor nephrectomy procedure
    - post donor nephrectomy care.

12. You need to talk to the following colleagues:

    - renal service manager
    - renal transplant clinical lead (transplant surgeon and nephrologist) in a transplant centre; or renal transplant clinical lead (nephrologist) in a specialist renal centre
    - renal specialist lead nurse.

13. Identification of the stages can be determined from the clinical coding. As many of the patient events are NAPC, it is recommended that you understand whether the clinical codes are applied to the NAPC contacts and if not, work with the service team and clinical coders to ensure the appropriate information is recorded.

14. An important point to remember about renal transplants and live donations is that nephrologists as well as surgeons are involved in the pre-transplant assessment and post-transplant care.[1]

15. The patient events are included on the admitted patient care (APC) feed (feed 1a) and non-admitted patient care (NAPC) feed (feed 3a). There may be some additional patient events for maintenance phase or follow up on the NAPC (community) feed (feed 3c).

Renal transplant recipient pathway

Assessment

16. When a patient's kidney function declines to such a level that dialysis or transplantation is being considered, the patient initially attends a nephrology clinic under a consultant nephrologist to determine their suitability for a kidney transplant.

17. This activity is recorded in the NAPC feed (feed 3a).

18. Patients potentially suitable for a kidney transplant have their initial work-up in a nephrology low clearance clinic.

19. Patients deemed suitable for a kidney transplant are usually referred to a transplant assessment clinic under a consultant transplant surgeon. If their suitability is confirmed, they are put on the national transplant list.

20. M172 is the procedure/activity code for the nephrology and transplant surgery pre-transplant assessment for a kidney transplant; this maps to healthcare resource group (HRG) code LA12A*.

21. Diagnostics ordered may include diagnostic imaging, cardiology tests, and histocompatibility and immunogenetics (H&I) assessment.

22. The diagnostics activity should be reported on the appropriate diagnostics patient-level feed.

[1] See Acute standard CM1: Medical staffing.

Maintenance

23. To be maintained on the list, patients require one annual transplant-focused clinic appointment and three-monthly H&I[2] antibody measurements. List maintenance is captured by procedure code M172 which maps to HRG code LA12A. This activity is usually done in a clinic under the consultant transplant surgeon, but it may be done under a nephrologist.

24. This activity is reported in the NAPC feed (feed 3a) and appropriate diagnostics feed – including the pathology feed (feed 8) or the diagnostic imaging feed 12a.

25. See Standard CM3: Non-admitted patient care when costing the renal maintenance outpatient clinic activity.

Transplant procedure

26. This is an inpatient episode and is reported on the APC feed (feed 1a).

27. Renal transplants are recorded against one of three HRG codes:
    - LA01A
    - LA02A
    - LA03A.

28. This depends on whether the donor is a non-heart beating (DCD), heart-beating (DBD) or live donor (LD).

29. LA01A and LA02A are non-elective inpatient activity; and LA03A is elective inpatient activity.

30. Theatre activity should be reported on the theatres feed (feed 13).

31. Medicines should be reported on the medicines dispensed feed (feed 10).

32. Diagnostics should be reported on the appropriate diagnostics patient-level feed.

33. Physiotherapy, dietitian and pharmacy activity for these patients should be allocated across patients receiving the service. As a superior method the

[2] Histocompatibility and Immunogenetics

information can be included on the supporting contacts feed (feed 7) and allocated to the patient.

Post-transplant care

34. This can take place in the transplant centre or the specialist renal centre. Follow-up attendances (assume around 36 visits in year 1, and two to four per year in subsequent years for non-complex patients) are usually with a transplant surgeon, nephrologist or transplant nurse specialist, and involve some routine blood and urine tests. Most patients referred from their renal unit for transplant are repatriated back to their renal unit at any point between their discharge from the inpatient transplant episode and 12 months later[3].

35. This activity is reported in the NAPC feed (feed 3a).

36. Post-transplant follow-up activity codes to M174, which maps to HRG code LA13A.

37. Medicines should be reported on the medicines dispensed feed (feed 10).

38. Diagnostics should be reported on the appropriate diagnostics patient-level feed.

Live donor nephrectomy pathway

Screening and assessment

39. This activity includes assessment of live donor suitability, multidisciplinary review, work-up of the potential living donor and independent assessment. This can take place in the transplant centre or the specialist renal centre.

40. For live donor screening, assume one 60-minute new appointment with the living donor co-ordinator and H&I assessment. For live donor assessment, assume one 45-minute new appointment with a nephrologist; one 45-minute new appointment with a transplant surgeon; one 30-minute follow-up appointment with the living donor co-ordinator; and one two-hour new appointment with the independent assessor.

[3] For most patients the repatriation occurs at discharge, three months or six months.

41. This activity is reported in the NAPC feed (feed 3a).

42. Outpatient activity is captured by clinic codes M171 and M173, which map to HRG codes LA10Z and LA11Z respectively.

43. Ordered diagnostics may include blood and urine tests, diagnostic imaging, nuclear medicine, cardiology and H&I assessment.

44. Diagnostics activity should be reported on the appropriate diagnostics patient-level feed.

Live donor nephrectomy episode

45. This is an elective inpatient episode and is reported on the APC feed (feed 1a).

46. The live donor nephrectomy is recorded against the HRG code LB46Z.

47. Theatre activity should be reported on the theatres feed (feed 13).

48. Medicines should be reported on the medicines dispensed feed (feed 10).

49. Diagnostics should be reported on the appropriate diagnostics patient-level feed.

50. As a superior method, physiotherapy activity for these patients should be reported on the supporting contacts feed (feed 7).

Post donor nephrectomy care

51. This can take place in the transplant centre, the specialist renal centre or, long term, in the general practice[4]. Follow-up attendances (assume four in year 1 and one each year thereafter) are with a transplant surgeon, nephrologist or live donor co-ordinator, and involve routine blood and urine tests.

52. This activity is reported in the NAPC feed (feed 3a).

53. Outpatient activity is captured by outpatient code M175, which maps to HRG code LA14Z.

[4] Where this service is provided by acute specialist nurses, this should be costed. Where it is part of the GP services, there is no requirement to cost the activity.

54. Medicines should be reported on the medicines dispensed feed (feed 10).

55. Diagnostics should be reported on the appropriate diagnostics patient-level feed.

56. Patients are discussed at clinical MDT meetings. You may allocate the cost of these discussions across the patients discussed as part of your healthcare professional allocations. These meetings are not reported separately to the patient event..

Identifying the costs

57. You need to work with finance colleagues to identify all the associated costs for renal transplants (or that part of the pathway undertaken in your provider if it is not a transplant centre) and to ensure these costs are allocated to your organisation's renal transplant activity.

58. There are expected costs in renal transplant activity. Many of these costs can be allocated using information on the patient-level feeds in Standard IR1: Collecting information for costing. Relative weight values/other information sources are needed to allocate any costs not collected in these feeds.

59. The activities with expected costs may include but are not limited to those listed in Table CA4.1.

60. Table CA4.2 is an excerpt[5] from Spreadsheet CP3.3 showing the resource and activity links to use for recipient renal transplant.

Costing the acuity of the care pathway

61. You need to understand where acuity fluctuates and the impact of this on how you allocate the costs. Talk to your renal colleagues to learn about how acuity fluctuates for the care pathways followed by your organisation.

62. You then need to build these rules into your costing, using relative weight values/other information sources if the information is not collected in the patient-level feeds in Standard IR1: Collecting information for costing.

[5] Please note all excerpts in this standard are for illustrative purposes only. Use Spreadsheet CP3.3 to ensure you are using all the correct resource and activity links.

63. Example CA4.1 shows what information you could collect to refine your renal transplant costing further.

64. **Please note this is an example for costing purposes of how to collect information about those who care for the patient and which may not be collected by patient-level feeds. It does not indicate the care that should be delivered.**

Table CA4.1: Renal transplant activities with expected cost types

	Assessment	Maintenance care	Procedure (incl initial inpatient stay)	Post-procedure care
Recipient	• Consultant nephrologist • Consultant surgeon • Specialist nurse • MDT meetings • Cardiology tests • Vascular lab tests • Nuclear medicine tests • Diagnostic imaging • Pathology – microbiology tests • H&I assessment • Outpatient care	• Consultant nephrologist • Consultant surgeon • Specialist nurse • Cardiology tests • Vascular lab tests • Nuclear medicine tests • Diagnostic imaging • H&I antibody measurement • Outpatient care	• Consultant nephrologist and non-consultant medical staff • Consultant surgeon and non-consultant medical staff • Recipient transplant co-ordinator • Haemodialysis • Pathology including microbiology • H&I cross-match • Diagnostic imaging • Cardiology tests • Theatres including consumables • Anaesthetists • Ward care • Specialist nurse • Physiotherapist • Renal pharmacist • Renal dietitian • Pain team • Medicines – routine therapy	• Consultant nephrologist • Consultant surgeon • Specialist nurse • Pathology • Medicines • H&I antibody monitoring • Outpatient care

			• Medicines – prevention of rejection • Medicines – cytomegalovirus (CMV) prophylaxis • Medicines – CMV treatment • Medicines – treatment of infection • Medicines – treatment of rejection	
Live donor	• Consultant nephrologist • Consultant surgeon • Live donor co-ordinator • Independent assessor for live donor assessment • MDT meetings • Cardiology tests • Nuclear medicine tests • Pathology – microbiology tests • H&I assessment • Outpatient care		• Consultant surgeon and non-consultant medical staff • Consultant nephrologist and non-consultant medical staff • Live donor co-ordinator • Pathology including microbiology • Diagnostic imaging • Theatres including consumables • Anaesthetists • Ward care • Physiotherapist • Pain team • Medicines – routine therapy	• Consultant surgeon • Consultant nephrologist • Live donor co-ordinator • Pathology • Outpatient care

Example CA4.1: Collecting additional information to refine the costing

The level of input each patient requires of course varies. The typical input is:

Day of admission:

- consultant surgeon and consultant nephrologist: assessment and consent 30 minutes each – relative weight values/other information source
- non-consultant medical staffing: initial assessment 30 minutes – relative weight values/other information source
- consultant or non-consultant anaesthetist assessment: 30 minutes – relative weight values/other information source
- recipient co-ordinator: six hours – relative weight values/other information source
- H&I crossmatch test: pathology feed (feed 8).

Transplant procedure – post-surgery acuity:

- ward care: length of stay in hours on ward stay feed (feed 4).

Day 1 after surgery:

- consultant surgeon and consultant nephrologist: ward round 10 minutes – relative weight values/other information source
- non-consultant medical staff: ward work 1.5 hours per day – relative weight values/other information source
- specialist renal nurse: 10 minutes – relative weight values/other information source
- pain team: supporting contacts feed (feed 7)
- ultrasound: diagnostic imaging feed (feed 12)
- additional Band 5 one-to-one care for 24 hours on ward establishment – relative weight values/other information source.

Days 2 to 4 after surgery:

- consultant surgeon and consultant nephrologist: ward round 10 minutes – relative weight values/other information source
- non-consultant medical staff: ward work 45 minutes per day – relative weight values/other information source

- renal nurse: supporting contacts feed (feed 7)
- pain team: supporting contacts feed (feed 7)
- dietitian: supporting contacts feed (feed 7)
- additional Band 5 one-to-one care for 24 hours on ward establishment for days 2 and 3 – relative weight values/other information source.

Days 5+ after surgery:

- consultant surgeon and consultant nephrologist: ward round 10 minutes – relative weight values/other information source
- non-consultant medical staffing: ward work 30 minutes per day – relative weight values/other information source
- specialist renal nurse: 10 minutes per day – relative weight values/other information source
- pain team: supporting contacts feed (feed 7)
- dietitian: supporting contacts feed (feed 7).

Discharge day:

- non-consultant medical staff: 40 minutes to take out (TTO) medication and discharge summary preparation – relative weight values/other information source
- specialist renal nurse: 40 minutes TTO medication and discharge summary preparation – relative weight values/other information source.

Other considerations

65. Subsequent non-elective and elective readmissions are excluded from this costing standard and should be costed following Standards CP1 to CP6.

Table CA4.2: Excerpt from Spreadsheet CP3.3 showing the resource and activity links for recipient renal transplant episode costs

	Activity									
Resource	**Theatre – surgical care**	**Theatre – anaesthetic care**	**Theatre – recovery care**	**Ward care**	**Dispensing patient level medicine scripts**	**Dispensing non patient-identifiable medicines**	**X-ray**	**Support-ing contact 1:1 inpt unit**	**Pain manage-ment care**	**Transplant co-ordination**
Medical and surgical consumables		£X		£X			£X			
Specialist nurse								£X	£X	
Consultant	£X						£X			
Medicines					£X	£X				
Pharmacy technician					£X	£X				
Transplant co-ordinator										£X
Dietitian								£X		

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