PICANet Custom Audit Definitions

Renal Dataset

Version 2.0 (March 2017)

Renal Dataset Contents

INTRODUCTION

Background

In collaboration with the Continuous Renal Replacement Therapy (CRRT) Study Group of the Paediatric Intensive Care Society (PICS), UK and Dr Claire Westrope PICANet has developed the Renal Custom Audit of paediatric patients who receive renal CRRT in PICUs in the UK and Ireland.
This audit collects detailed data on each patient episode of CRRT in the paediatric intensive care unit; providing information about the use of CRRT in the critically ill child, an audit of current practice and an evidence base to potentially drive future research into best practice.

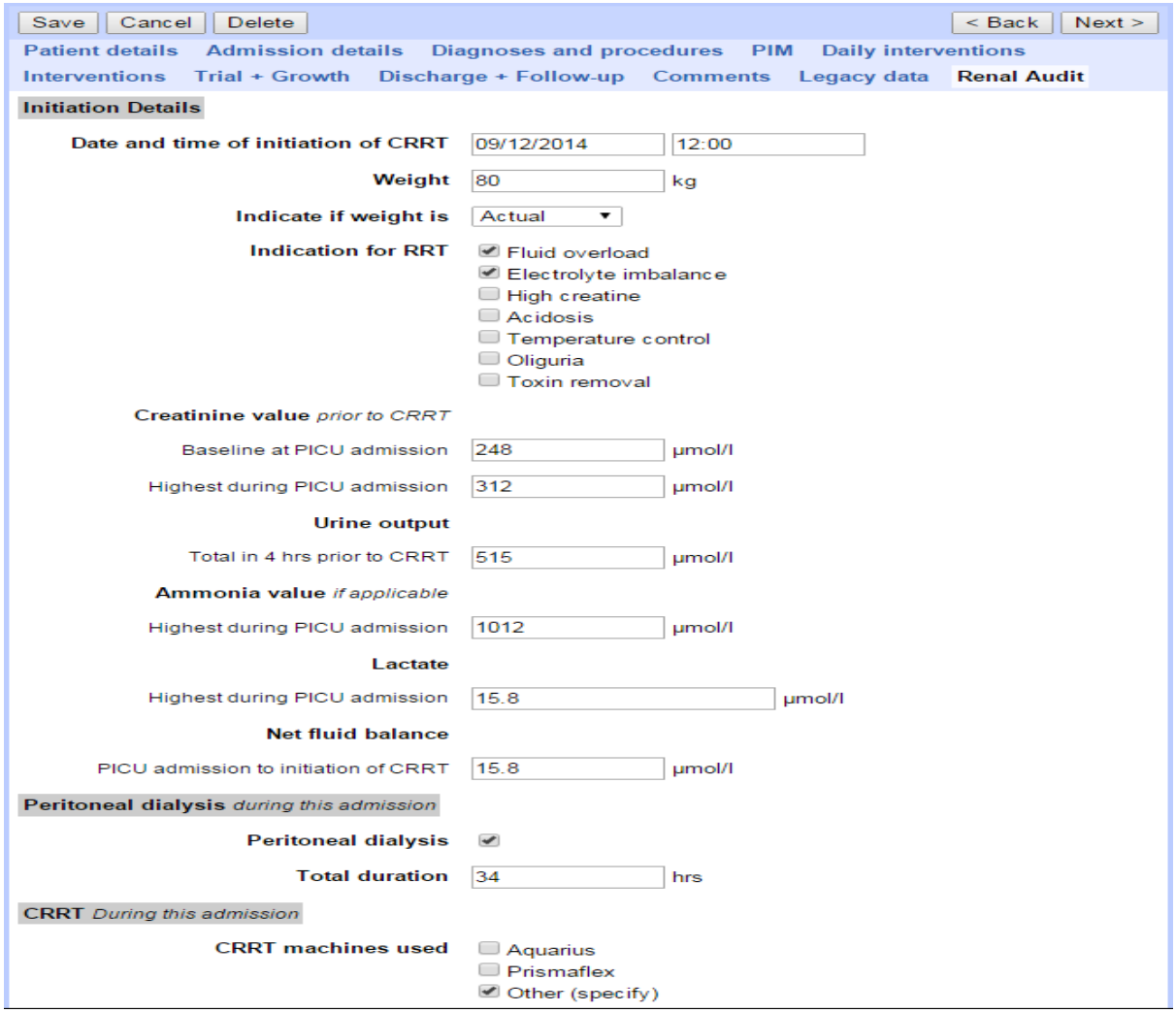
Data Collection method

For units who agree to participate in this custom audit PICANet will enable access to the specific custom audit data collection tab on the data entry page.

1. A PICANet Renal custom audit form (Appendix B – page 21) is completed for all admissions who receive Continuous Renal Replacement Therapy (CRRT) during the PICU admission event.

2. When the PICU has entered or uploaded to PICANet Web, the admission event data for the named patient the Renal Dataset may be manually entered onto the **Renal** data collection tab.

3. To enter Renal data, open the admission event on PICANet Web for the named patient and select the **Renal** tab. Note that the **Renal** tab is visible for users in PICUs who have opted into this specific custom audit. It is visible for all admission events in participating units but completion is only required for patients who receive CRRT during the specified PICU admission event.



RENAL DATASET

PATIENT DETAILS

Family name or Surname

Definition	The last or family name or surname given to the child as it would appear on the child's birth certificate or other appropriate document.
Reason	Family name provides an additional identifier that can aid patient tracking throughout the hospital. Can help identify individuals who may have had multiple admissions to one or more PICUs.
Format	Free text (e.g. Brown). If no family name available record as UNKNOWN and indicate why not available in the comments section.

First name

Definition	The first name given to the child as it would appear on the child's birth certificate or other appropriate document.
Reason	First name provides an additional identifier that can aid patient tracking throughout the hospital and PICANet Web. Can help identify individuals who may have had multiple admissions to one or more PICUs.
Format	Free text (e.g. John). If no first name available record as UNKNOWN and indicate why not available in the comments section.

Date of birth

Definition	The child's date of birth as recorded on the child's birth certificate or other appropriate document.
Reason	Date of birth and date of admission are used to calculate age at admission to your unit. Date of birth provides an additional identifier that can aid patient tracking throughout the hospital and PICANet Web. Can help identify individuals who may have had multiple admissions to one or more PICUs.
Format	Date; dd/mm/yyyy. Date of birth should be between 01/01/1980 and Date of admission. If the child's date of birth is unobtainable, but the child is on your unit, use your judgement to estimate year of birth and record as 1 January of estimated year (e.g. 01/01/YYYY). If information is being extracted from notes and the child's date of birth is not recorded, or recorded as unavailable, leave the field blank and select DOB not known in the Indicate if date of birth is field at data entry. If it is necessary for Date of birth to be partly anonymised, enter the correct month and year and record 01 for the day (e.g. 01/MM/YYYY). Then select Anonymised in the Indicate if date of birth is field at data entry.

NHS, CHI or H&C number

Definition	Unique identifying number enabling tracing of a patient through the NHS system in the United Kingdom. For English and Welsh patients the NHS number, for Scottish patients the CHI number and for Northern Ireland the H&C number is used as a unique numeric identifier.
Reason	NHS, CHI or H&C number gives a unique, identifiable variable that will allow other identifiable data items to be removed from the database. Can identify individuals who may have had multiple admissions to one or more PICUs.
Format	Free text (e.g. 1463788990).

NHS, CHI or H&C number eligibility

Definition	The patient is not eligible for NHS, CHI or H&C number, he or she is an overseas national who is not ordinarily a resident in the UK and therefore does not have an allocated NHS, CHI or H&C number.
Reason	To enable effective audit of availability of NHS, CHI or H&C number and assessment of health services delivery.
Format	Tick box if patient is not eligible for an NHS, CHI or H&C number.

Case note number

Definition	Unique identifying number for an individual's hospital records at the treating unit. Allocated on first admission to hospital.
Reason	Case note number provides a unique identifier that can aid patient tracking throughout the hospital.
Format	Free text (e.g. AB145C).

Admission number

Definition	Unique identifier assigned to each consecutive admission to your unit. As recorded in your unit admission book or clinical information system. Admission to your unit is defined as the physical admission and recording of that admission to a bed or cot in your unit.
Reason	Admission number provides a unique identifier for each admission to each unit participating in PICANet and thus allows identification of one set of admission data from another.
Format	Free text (e.g. 01/389).

INITIATION DETAILS

Date and Time of initiation of Continuous Renal Replacement Therapy (CRRT)

Definition	The date and time that continuous renal replacement therapy was initiated during this admission to PICU.
Reason	Date and time of commencement of CRRT is required to calculate the length of stay in PIC prior to the commencement of this treatment.
Format	Date: (dd/mm/yyyy) Time: (24 hour clock); hh:mm.
Validation rule	Value expected Warning – date and time of commencement of RRT should not precede data and time of admission to PICU

Variable name	DateInitCRRT	**GroupID**	1	**AttributeID**	1
Variable name	TimeInitCRRT	**GroupID**	1	**AttributeID**	2

Weight

Definition	Patient weight in kilograms rounded to nearest 1 decimal place as documented on admission to PICU.
Reason	To inform subsequent analyses
Format	Numerical value to 1 decimal place (e.g. 24.9) Units: kg; validation check if range outside 0.5 to 80.0
Validation rule	Value expected. Warning if range outside 0.5 to 80.0 Warning if missing

Variable name	RenalWeight	**GroupID**	1	**AttributeID**	3

Indicate if weight is

Definition Specifies whether the weight recorded is actual or estimated

Reason Estimated weights may reduce the power of subsequent analyses

Format Choose from one of the following:
Actual
Estimated

Validation rule Expected value if weight is recorded

Variable name	WeightActEst	**GroupID**	1	**AttributeID**	5

Indication for Renal Replacement Therapy (RRT)

Definition The clinical indication(s) for the decision to commence renal replacement therapy

Reason To inform the clinical indications for the decision to commence CRRT

Format Tick all that apply:

Fluid Overload -where the indication for RRT is the removal of excess fluid from the patient or to facilitate increased fluid intake
Electrolyte imbalance - where the indication for RRT is to correct deranged electrolytes including sodium, potassium, urea, creatinine, phosphate, calcium and urate
Acidosis - where the indication for CRRT is metabolic acidosis including lactic acidosis
Oliguria - where the indication for CRRT is reduced urine output < 0.5ml/hr for previous four hours
High creatinine
Where the indication for CRRT is a creatinine value that is above the normal range for age, or the creatinine value has risen from baseline at admission to PICU
Temperature Control
Where the initiation of CRRT is to facilitate control of hypothermia or hyperthermia
Toxin removal
Where initiation of CRRT is to facilitate the removal of external toxins such as poisons, sepsis or the removal of toxic metabolites in inborn errors of metabolism e.g. ammonia (tick box if toxin is ammonia)
Specify the type of toxin.

Validation rule At least one option is expected

Variable name	IndicRRTFluid	**GroupID**	1	**AttributeID**	8
Variable name	IndicRRTElectrolyteImb	**GroupID**	1	**AttributeID**	10
Variable name	IndicRRTHiCreatine	**GroupID**	1	**AttributeID**	11
Variable name	IndicRRTAcidosis	**GroupID**	1	**AttributeID**	12
Variable name	IndicRRTTempCont	**GroupID**	1	**AttributeID**	13
Variable name	IndicRRTOliguria	**GroupID**	1	**AttributeID**	14
Variable name	IndicRRTToxRem	**GroupID**	1	**AttributeID**	15

Toxin removal specify

Definition The type of toxin if CRRT is commenced for specified toxin removal such as poisons, sepsis or the removal of toxic metabolites in inborn errors of metabolism e.g. ammonia

Reason	To inform the clinical indications for the decision to commence CRRT
Format	Free text
Validation rule	Expected value if toxin removal is selected in Indication for RRT

Variable name	IndicRRTToxRemReas	**GroupID**	1	**AttributeID**	16

Creatinine value (prior to commencement of continuous renal replacement therapy - CRRT):

Baseline creatinine value at PICU admission

Definition	The first recorded creatinine value following admission to PIC.
Reason	Rise in creatinine from baseline required to calculate Acute Kidney Injury Score
Format	Creatinine value in micromol/litre [µmol/L]. Expected range 50-115
Validation rule	Value expected Validation check if zero or >500 Warning if missing

Variable name	BaseCreatAtAdm	**GroupID**	1	**AttributeID**	18

Highest creatinine value during PICU admission prior to initiation of CRRT

Definition	The highest recorded creatinine value during this PIC admission and prior to the commencement of continuous renal replacement therapy. This value may be the same as the baseline result.
Reason	Rise in creatinine from baseline required to calculate Acute Kidney Injury Score
Format	Creatinine value in micro mol/litre [µmol/L]. Expected range 50-115
Validation rule	Value expected Validation check if zero or >500 Warning if missing

Variable name	BaseCreatAtAdm	**GroupID**	1	**AttributeID**	19

Urine output

Definition	Total urine output in the 4 hours immediately prior to the initiation of continuous renal replacement therapy (CRRT)
Reason	Urine output in ml/kg/hr is required to calculate Acute Kidney Injury Score
Format	Record as millilitres in whole numbers (e.g. 55).
Validation rule	Value expected Can be zero Validation check if > 1000 Warning if missing

Variable name	UrineOutput	**GroupID**	1	**AttributeID**	22

Ammonia value (*if applicable*)

Definition	The highest recorded ammonia value measured prior to the initiation of continuous renal replacement therapy (this may be a measurement from the previous day) **Record only if toxin removal due to raised ammonia** is recorded in indications for RRT
Reason	To assess/establish threshold value for initiation of RRT for hyperammonia
Format	Micromols /litre [µmol/L]. Whole number (e.g. 545)
Validation rule	Value expected only if toxin removal is ticked in indications for RRT and ammonia is specified as type of toxin Validation check if outside range 100-2000

Variable Name	AmoniaMax	**GroupID**	1	**AttributeID**	24

Lactate

Definition	The most recent lactate value measured during current PICU admission prior to initiation of continuous renal replacement therapy (this may be a measurement from the previous day)
Reason	To assess/establish threshold value for initiation of RRT for hyperlactaemia
Format	Value rounded up to nearest 1 decimal place in millimol/l (e.g. 13.5) Range 0.1 to 20.0
Validation rule	Value expected Validation check if zero or >30.0 Enter 88.8 if out of range reading

Variable name	LactateMax	**GroupID**	1	**AttributeID**	26

Net fluid balance

Definition	The total net fluid balance from the time of admission to PICU to initiation of CRRT
Reason	To calculate percentage fluid overload at initiation of CRRT using net fluid balance divided by weight on admission
Format	+/- millilitres e.g. – 1300 or + 400
Validation rule	Value expected Validation check if outside range -10000 to +10000

Variable name	NetFluidBallance	**GroupID**	1	**AttributeID**	21

PERITONEAL DIALYSIS

This section is applicable to patients who have received peritoneal dialysis therapy during their PICU admission event

Peritoneal dialysis

Definition	Peritoneal dialysis used during this PICU admission Includes patients who have a peritoneal catheter inserted and used for the purpose of peritoneal dialysis. Do not include patients who have a peritoneal catheter inserted for drainage of ascites A patient may receive both peritoneal dialysis and CRRT during the same PICU admission
Reason	To record the use of peritoneal dialysis therapy
Format	Tick box if peritoneal dialysis used at any time during this PICU admission
Validation rule	None

Variable name	PeritonealDialysis	**GroupID**	1	**AttributeID**	28

Total duration of peritoneal dialysis therapy

Definition	The total number of hours spent on peritoneal dialysis therapy. Applies to the number of hours spent on actual peritoneal dialysis therapy. Do not include any hours where the patient is not actually receiving peritoneal dialysis e.g. where there is complication stopping peritoneal dialysis or treatment is stopped to assess renal recovery and then restarted
Reason	To assess the number of hours of peritoneal dialysis received
Format	Hours rounded to nearest hour, e.g. 15. Enter 9999 if not known
Validation rule	Value expected value only if Peritonea Dialysis is selected

Variable name	PDTotalDuration	**GroupID**	1	**AttributeID**	29

EXTRA-CORPOREAL CRRT *(during this admission)*

This section is applicable to patients who have had continuous extracorporeal renal replacement therapy during their PICU admission event

Continuous extracorporeal renal replacement therapy (CRRT)

Definition	Continuous extracorporeal renal replacement therapy used during this PICU admission.
Reason	To record the use of extracorporeal renal replacement therapy
Format	Tick box if extracorporeal renal replacement therapy used at any time during this PICU admission
Validation rule	None

Variable name	ExtraCorporealCRRT	**GroupID**	1	**AttributeID**	78

CRRT machine used

Definition The name of the machine used to deliver CVVH, CVVHD or CVVHDF

Reason To assess if machine used to deliver CVVH/CVVHD or CVVHDF influences performance, complication rates or patient outcomes

Format Tick all that apply
Aquarius (Edwards Life Sciences)
Prismaflex (Gambro)
Other *(specify)*
If Other, record name

Validation rule Expect one box to be ticked if any of CVVH, CVVHD or CVVHDF are true

Variable name	CRRTAquarius	**GroupID**	1	**AttributeID**	31
Variable name	CRRTPrismaflex	**GroupID**	1	**AttributeID**	32
Variable name	CRRTOther	**GroupID**	1	**AttributeID**	33

Other CRRT machine specified

Definition The name of the other CRRT machine used to deliver CVVH, CVVHD or CVVHDF
Record if other CRRT machine used is selected

Reason To assess if machine used to deliver CVVH/CVVHD or CVVHDF influences performance, complication rates or patient outcomes

Format Free text

Validation rule If other CRRT machine used is selected expect the name of the machine to be completed

Variable name	CRRTOtherDesc	**GroupID**	1	**AttributeID**	34

Site of Vein *(on initiation)*

Definition The site of the vein into which vascular access is inserted, on initiation, for the purpose of facilitating continuous renal replacement therapy

Choose from
Internal jugular –Left or Right
Subclavian - Left or Right
Femoral – Left or Right
Umbilical
ECMO
Other -specify

Reason To assess the influence of insertion site of vascular access on the application of renal replacement therapy

Format Tick one box only
Internal jugular vein – Left = 1
Internal jugular vein – Right = 2
Subclavian vein – Left = 3
Subclavian vein – Right = 4
Femoral vein – Left = 5
Femoral vein – Right = 6
Umbilical vein = 7
ECMO - tick if RRT circuit connected via ECMO circuit = 8
Other- specify = 9

Validation rule	Expected value. Only one site can be selected				
Variable name	SiteOfVein	**GroupID**	1	**AttributeID**	35

Other site *(specify)*

Definition	The other site into which vascular access is inserted, on initiation, for the purpose of facilitating continuous renal replacement therapy Record only if other site is selected as site of vein on initiation
Reason	To assess influence of vascular access on application of renal replacement therapy
Format	Free text
Validation rule	Expected value if other site of vein is selected

Variable name	OtherSiteOfVein	**GroupID**	1	**AttributeID**	36

Venous catheter *(on initiation)*

Manufacturer name and type

Definition	The manufacturer name and type of the specialised central venous catheter inserted into patient for the purpose of continuous renal replacement therapy on initiation For example Vygon Double Lumen Vascath or Cook Triple Lumen Central Venous Line Not required if site of vein is umbilical or ECMO
Reason	To assess influence of vascular access on application of renal replacement therapy
Format	Free text
Validation rule	Value expected if site of vein is internal jugular left or right, subclavian left or right or femoral left or right or other

Variable name	VCManufacturer	**GroupID**	1	**AttributeID**	38

Size of the venous catheter

Definition	The size, recorded as the external diameter of specialised central venous catheter inserted into the patient for initiation of continuous renal replacement therapy Not required if site of vein is umbilical or ECMO
Reason	To assess influence of vascular access size on application of renal replacement therapy, particularly blood flow rates and filter life
Format	Record in French Fr (to one decimal place), e.g. 12.4
Validation rule	Value expected if site of vein is internal jugular, subclavian or femoral and manufacturer name and type is completed Validation check if outside range 4.0 to 20

Variable name	VCDiameter	**GroupID**	1	**AttributeID**	39

Length of the venous catheter

Definition	Total length of the specialised central venous catheter (vas cath) used for initiation of continuous renal replacement therapy Do **NOT** record the length inserted into the patient

Reason	To assess influence of vascular access on application of renal replacement therapy
Format	Record in centimetres (whole number), e.g. 25cm
Validation rule	Value expected if site of vein is internal jugular, subclavian or femoral and manufacturer name type is completed Validation check if outside range 5 to 30 Warning if value missing

Variable name	VCLength	**GroupID**	1	**AttributeID**	40

Number of lumens of venous catheter

Definition	The total number of lumens of the specialised central venous inserted into patient for initiation of continuous renal replacement therapy Not the number of lumens used for CRRT
Reason	To assess influence of vascular access on application of renal replacement therapy
Format	Record whole number, e.g. 4
Validation rule	Expected value if site of vein is internal jugular, subclavian or femoral and manufacturer type is completed Warning if number is outside normal range 1-4 Warning if missing value

Variable name	VCNoOfLumens	**GroupID**	1	**AttributeID**	41

Blood transfusion

Definition	Whether the patient received a blood transfusion at initiation of continuous renal replacement therapy. Either via blood priming of the circuit and /or by administration of a blood transfusion to the patient during the first hour of continuous renal replacement therapy Choose from **To circuit:** if CRRT circuit was primed with blood prior to connection to the patient or **To patient:** if patient received a blood transfusion during first hour of continuous renal replacement therapy **Both:** the CRRT circuit was primed with blood prior to connection to the patient and the patient received a blood transfusion during the first hour of continuous renal replacement therapy **None:** if the CRRT circuit was clear primed and patient was not exposed to a blood transfusion during the first hour of continuous renal replacement therapy
Reason	To assess incidence of blood exposure to patients receiving continuous renal replacement therapy
Format	Tick one **To circuit** **To patient** **Both** **None**
Validation rule	Warning if None is selected and the patient received CVVH, CVVHD or CVVHDF

Variable name	BloodTransfusion	**GroupID**	1	**AttributeID**	42

Continuous Venovenous Haemofiltration (CVVH)

Definition	Continuous venovenous haemofiltration used during this PICU admission.
Reason	To review current practice, inter-unit variability and outcomes by modality
Format	Tick box if CVVH mode used during this PICU admission
Validation rule	If type of CRRT machine is specified one or more modes of CRRT (CVVH, CVVHD, CVVHDF) are expected

Variable name	CVVH	**GroupID**	1	**AttributeID**	43

Maximum blood flow

Definition	If CVVH given state the maximum blood flow recorded during all periods of CVVH, during this PICU episode
Reason	To establish usual blood flow rates used/achieved during CVVH
Format	ml/min rounded up to nearest whole value, e.g. 350.
Validation rule	Value expected value if CVVH selected. Validation check if outside range 20 to 430 Warning if missing value.

Variable name	CVVHMaxBloodFlow	**GroupID**	1	**AttributeID**	44

Maximum ultrafiltrate flow

Definition	If CVVH given state the maximum ultrafiltrate flow recorded during all periods of CVVH, during this PICU episode
Reason	To establish usual ultrafiltration rates achieved during CVVH and to assess dose effects on outcome
Format	ml/hour rounded up to the nearest whole value; e.g. 450
Validation rule	Expected value if CVVH selected Validation check if outside range 10-2000ml/hr Warning if missing value

Variable name	CVVHMaxUltrafiltrateFlow	**GroupID**	1	**AttributeID**	45

Continuous Venovenous Haemodialysis (CVVHD)

Definition Continuous venovenous haemodialysis used during this PICU admission.

Reason To review current practice, inter-unit variability and outcomes by modality

Format Tick box If CVVHD mode used during this PICU admission

Validation rule If type of CRRT machine is specified one or more modes of CRRT (CVVH, CVVHD, CVVHDF) are expected

Variable name	CVVHD	**GroupID**	1	**AttributeID**	46

Maximum blood flow

Definition If CVVHD given state the maximum blood flow recorded during all periods of CVVHD, during this PICU admission.

Reason To establish usual blood flow rates used/achieved during CVVHD

Format ml/min rounded up to nearest whole value, e.g. 350

Validation rule Expected value if CVVHD selected
Validation check if outside range 20-450
Warning if missing value

Variable name	CVVHDMaxBloodFlow	**GroupID**	1	**AttributeID**	47

Maximum dialysate flow

Definition If CVVHD given state the maximum dialysate flow recorded during CVVHD, during this PICU admission.

Reason To establish usual dialysis rates achieved during CVVHD and to assess dose effects on outcome

Format ml/hr rounded up to the nearest whole value, e.g. 450.

Validation rule Expected value if CVVHD selected
Validation check if outside range 10 to 8000
Warning if missing value

Variable name	CVVHDMaxUltrafiltrateFlow	**GroupID**	1	**AttributeID**	48

Continuous Venovenous Haemodiafiltration (CVVHDF)

Definition Continuous venovenous haemodiafiltration used during this PICU admission.

Reason To review current practice, inter-unit variability and outcomes by modality

Format If CVVHDF mode used during this PICU admission tick box

Validation rule If type of CRRT machine is specified one or more modes of CRRT (CVVH, CVVHD, CVVHDF) are expected

Variable name	CVVHDF	**GroupID**	1	**AttributeID**	49

Maximum blood flow

Definition	If CVVHDF given state the maximum blood flow recorded during all periods of CVVHDF, during this PICU admission.
Reason	To establish usual blood flow rates used/achieved during CVVHDF
Format	ml/min rounded up to nearest whole value, e.g. 350
Validation rule	Expected value if CVVHDF selected Validation check if outside range 20-450 Warning if missing value

Variable name	CVVHDFMaxBloodFlow	**GroupID**	1	**AttributeID**	50

Maximum ultrafiltrate flow

Definition	If CVVHDF given state the maximum ultrafiltrate flow recorded during all periods of CVVHDF, during this PICU admission.
Reason	To establish usual ultrafiltration rates achieved during CVVHDF and to assess dose effects on outcome
Format	ml/hr rounded up to the nearest whole value, e.g. 450
Validation rule	Expected value if CVVHDF selected Validation check if outside range 10-2000 Warning if missing value

Variable name	CVVHDFMaxUltrafiltrateFlow	**GroupID**	1	**AttributeID**	51

Maximum dialysate flow

Definition	If CVVHDF given state the maximum dialysate flow recorded during all periods of CVVHDF, during this PICU admission
Reason	To establish usual ultrafiltration rates achieved during CVVHDF and to assess dose effects on outcome
Format	ml/hr rounded up to the nearest whole value, e.g. 450
Validation rule	Expected value if CVVHDF selected Validation check if outside range 10-8000 Warning if missing value

Variable name	CVVHDFMaxDialysateFlow	**GroupID**	1	**AttributeID**	52

Type of Replacement fluid

Definition	The type of replacement fluid used during CVVH, CVVHHD or CVVHDF
Reason	To establish usual practice and inter-PICU variability
Format	Tick all that apply Haemosol BO Prismasol 4 Accusol Other -specify
Validation rule	At least one value expected if CRRT (CVVH, CVVHD, CVVHDF) given Warning if missing value

Variable name	ReplacementFluidType	**GroupID**	1	**AttributeID**	53

Other Type of Replacement fluid (specify)

Definition	If other is specified the name of the other type of replacement fluid used during CVVH, CVVHHD or CVVHDF Record the brand name and type of fluid given. If custom made state CUSTOM
Reason	To establish usual practice and inter-PICU variability
Format	Free text
Validation rule	Expected if type of replacement fluid is other Warning if missing value

Variable name	OtherReplacementFluid	**GroupID**	1	**AttributeID**	54

Replacement fluid given *(CVVH only)*

Definition	During CVVH only: was replacement fluid given pre filter (predilution), post filter (post dilution) or a combination of both
Reason	To establish usual practice and inter-PICU variability and to assess effect on circuit survival
Format	Tick one box Pre dilution Post dilution Both
Validation rule	Expected value if CVVH given Warning if missing value

Variable name	ReplacementFluidGiven	**GroupID**	1	**AttributeID**	55

Anticoagulant used

Definition	Any medication given during CRRT episode in order to anticoagulate the CRRT circuit
Reason	To establish usual practice and inter-PICU variability and to assess the effect of anticoagulation practice on circuit survival.
Format	Tick yes or no
Validation rule	Expected value if CVVH, CVVHD, CVVHDF given Warning if missing and CVVH, CVVHD, CVVHDF given

Variable name	AnticoagulantUsed	GroupID	1	AttributeID	56

Type of anticoagulant *(tick all that apply)*

Definition If anticoagulation used record the name of the anticoagulant(s) given
Choose from
Heparin
Prostacyclin
Citrate
Other - specify

Reason To establish the efficacy and effects of different anticoagulation methods on CRRT circuit survival

Format Tick all that apply:
Heparin
Prostacyclin
Citrate
Other - specify

Validation rule Expected value if Anticoagulant used is yes
Warning if missing and Anticoagulant used is yes

Variable name	AnticoagulantHeparin	**GroupID**	1	**AttributeID**	58
Variable name	AnticoagulantProstacyclin	**GroupID**	1	**AttributeID**	59
Variable name	AnticoagulantCitrate	**GroupID**	1	**AttributeID**	60
Variable name	AnticoagulantOther	**GroupID**	1	**AttributeID**	61

Other type of anticoagulant used

Definition If other type of anticoagulant is specified record the type of anticoagulant used.

Reason To establish usual practice and inter-PICU variability and to assess the effect of anticoagulation practice on circuit survival.

Format Free text

Validation rule Expected value if type of anticoagulant used is other
Warning if value is missing and type of anticoagulant used is other

Variable name	OtherAnticoagulantName	**GroupID**	1	**AttributeID**	62

Target used

Definition Record the anticoagulation target used, the value used to titrate, adjust and maintain anticoagulation treatment
Choose from
APTT (activated prothrombin time)
ACT (activated clotting time)
Ionized Calcium
Other – specify

Reason To establish the efficacy and effects of different anticoagulation methods on CRRT circuit survival

Format Tick all that apply
APTT (activated prothrombin time)
ACT (activated clotting time)
Ionized Calcium
Other – specify

Validation rule Expected value if Anticoagulant used is yes
Warning if value is missing and Anticoagulant used is yes

Variable name	TargetAPTT	**GroupID**	1	**AttributeID**	64

Variable name	TargetACT	**GroupID**	1	**AttributeID**	65
Variable name	TargetIonizedCalcium	**GroupID**	1	**AttributeID**	66
Variable name	TargetOther	**GroupID**	1	**AttributeID**	67

Other target used

Definition	If other target is selected record the type of target used.
Reason	To establish the efficacy and effects of different anticoagulation methods on CRRT circuit survival
Format	Free text
Validation rule	Expected value if target used is selected as other Warning if value is missing and if target used is selected as other

Variable name	OtherTargetName	**GroupID**	1	**AttributeID**	68

Total duration of Continuous Renal Replacement Therapies (CVVH/CVVHD/CVVHDF))

Definition	The total duration of extracorporeal CRRT therapies (CVVH/CVVHD/CVVHDF) administered during single PICU admission, recorded in hours. Applies to the total number of hours spent on extra-corporeal CRRT therapies CVVH/CVVHD/CVVHDF only. Do not include hours where the patient is disconnected from the machine or there is machine malfunction while the patient is connected. Do not include hours spent on peritoneal dialysis
Reason	To establish relationship between duration of CRRT and patient outcome, and to evaluate cost implications of renal support in PICU
Format	Hours rounded to nearest hour, e.g. 15
Validation rule	Expected value if CVVH/CVVHD/CVVHDF selected Warning if value is missing and CVVH/CVVHD/CVVHDF selected

Variable name	TotalDurationOfCRRT	**GroupID**	1	**AttributeID**	69

Total number of filters used

Definition	The total number of CRRT filters used during the delivery of CRRT therapies CVVH/CVVHD/CVVHDF during the PICU admission (include elective and non-elective filter changes)
Reason	Number of filter changes is a surrogate for CRRT circuit survival and allows us to assess impact of both patient and circuit factors on CRRT circuit survival
Format	Whole number, e.g. 23
Validation rule	Expected value if CVVH/CVVHD/CVVHDF selected. Warning if outside the range 1-20 or value is missing and CVVH/CVVHD/CVVHDF selected

Variable name	TotalNumberOfFiltersUsed	**GroupID**	1	**AttributeID**	70

Number of elective filter changes

Definition	The total number of CRRT filters changed electively The number of filters that were changed for elective reasons during CVVH/CVVHD/CVVHDF during this PICU admission e.g. patient moved to or from theatre, CRRT paused for Therapeutic Plasma exchange, CRRT paused for elective procedure
Reason	Number of filter changes is a surrogate for CRRT circuit survival. The number of filters /circuits which failed may be calculated from the number of filters changed for elective reasons and the total number of filters used
Format	Whole number, e.g. 18
Validation rule	Expected value if CVVH/CVVHD/CVVHDF selected Warning if outside the range 1-20 or value is missing and CVVH/CVVHD/CVVHDF is selected

Variable name	NumElecFilterChanges	**GroupID**	1	**AttributeID**	71

RRT STATUS AT DISCHARGE

Definition	The status of the patient at time of discharge from paediatric intensive care Complete for all patients who received renal replacement therapy Choose from **No renal replacement therapy - patient discharged alive.** The patient is not receiving ongoing RRT and is discharged from PICU alive **No renal replacement therapy - patient died.** The patient died during this PICU admission **Ongoing renal replacement therapy** – select the type of ongoing RRT, choose from **Peritoneal dialysis** - record if ongoing RRT is peritoneal dialysis **Intermittent haemodialysis** – record if ongoing RRT is peritoneal dialysis **Other ongoing RRT** –specify type
Reason	To establish the relationship between need for renal replacement therapy and patient outcome; both in terms of survival and need for on-going renal support
Format	Tick appropriate box(s) **No RRT-patient discharged alive** **No RRT-patient died: patient died** **Ongoing RRT** – select and tick box for type of RRT **Peritoneal dialysis** **Intermittent haemodialysis** **Other** –specify
Validation rule	Required to select from No RRT or Ongoing RRT If Ongoing RRT required to select type of RRT Error if missing value

Variable name	RRTStatusAtDischarge	**GroupID**	1	**AttributeID**	72

Other Ongoing RRT

Definition	If other ongoing RRT is selected in RRT status at discharge specify the type of ongoing RRT
Reason	To establish the relationship between need for renal replacement therapy and patient outcome; both in terms of survival and need for on-going renal support
Format	Free text
Validation rule	Expected value if other Ongoing RRT-Other is selected Error if missing value

Variable name	OtherRRTAtDischarge	**GroupID**	1	**AttributeID**	76

Form completed by

Definition	Insert the name of the person completing this form
Reason	For local use to assist with the follow-up of data queries
Format	Free text

Appendix A –Missing Values

Missing PICANet Renal Dataset Values

For patients receiving continuous renal replacement therapy data for all fields included in the renal dataset should be available

Missing refers to data which has never been recorded and cannot be calculated from other available data; therefore it will never be available for this patient admission event.

When the following exception values are recorded on PICANet Web a validation query will be produced asking you to check the notes and charts to identify the missing information or provide confirmation that the data will never be available.

The information in the table below refers only to the summary renal dataset:

Initiation details	**Field Description:**	**If missing record:**
	Weight	999.9
	Baseline creatinine value	9999
	Highest creatinine value	9999
	Urine output	9999
	Ammonia value	9999
	Lactate	99.9
	Net fluid balance	99999
Peritoneal Dialysis	Total duration	9999
Extra-corporeal CRRT	Size of venous catheter	99.9
	Length of the specialised CVC	99
	Total no. of lumens	9
CVVH/CVVHD/CVVHDF	Maximum blood flow	999
	Maximum ultrafiltrate flow	999
CVVHDF only	Maximum dialysate flow	9999
	Total duration of CRRT therapies	9999
	Total no. of CRRT filters used	99
	No of elective filter changes	99

All other missing data values will show as missing data. Please complete as soon as possible.

Appendix B –Data Collection Form

Placeholder for Data Collection Form