

PICANet Referral Schema Manual

Version 1.3 January 2025

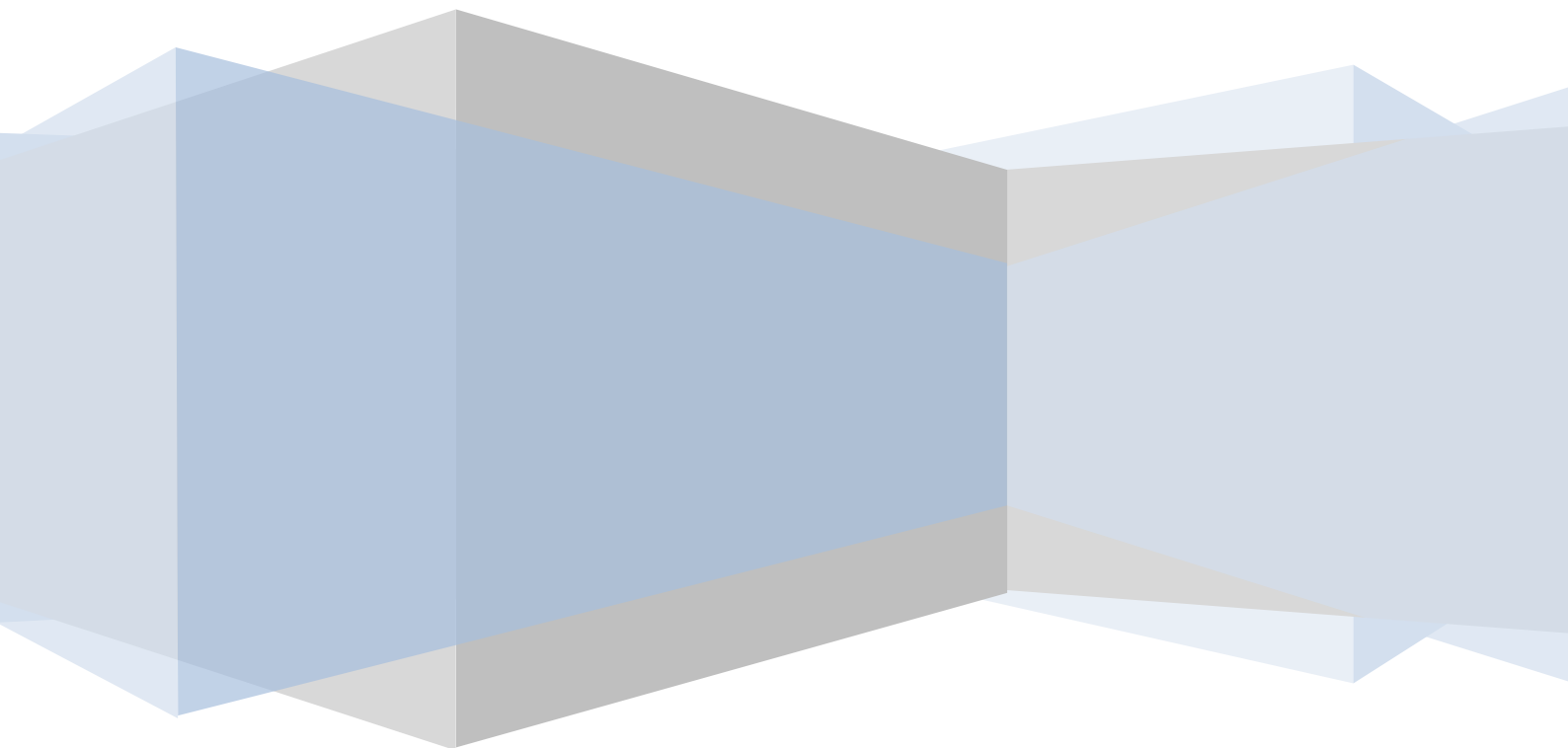


Table of Contents

Introduction.....	3
Local id.....	4
Episode details node.....	5
Demographic elements	6
Family name.....	7
Family name 2.....	8
First name	9
Address.....	10
Postcode	11
NHS, CHI or H&C number	12
Ineligible for NHS, CHI or H&C number	13
Case note number.....	14
Date of birth.....	15
Indicate if date of birth is estimated	16
Sex.....	17
Ethnic category	18
Other ethnic category	19
Comments.....	20
Referral node.....	21
Agent Organisation	22
Referral date	23
Referral time	24
Referral Number	25
Referring unit.....	26
Referring unit other.....	27
Referring Area.....	28
Referring speciality.....	29
Grade of referring doctor/nurse	30
Invasive ventilation at time of referral call.....	31
Decision of this referral call	32
Transport team	33
Referral transport outcome.....	34
Referral admission outcome.....	35
Transport team other	36
Destination unit (or location).....	37
Destination unit (or location) other	38

Introduction

PICANet Web provides a mechanism for import of data into the research database through the medium of XML (Extensible Mark-up Language). For data to be successfully imported into the database it must conform to the XML schema, as defined in the XSD (XML Schema definition) document.

On upload an XML file is validated against the XSD document, files that do not match the definition will be rejected. In the event of a file not conforming to the definition the user will be provided with detailed feedback on the problems with each episode node in the file.

Historically PICANet only collected data on admissions to PICU, in recent years the PICANet project has expanded the core dataset to contain information on both referral and transport PIC events. To maintain backwards compatibility PICANet have kept the same basic structure to the XSD document that was originally designed only for admission records. For this reason the structure of the schema is not entirely logical however the PICANet system maintains the ability to import a file from a clinical information system that has not altered its export methods in over 7 years.

The top level (or parent) node of each file should be “picanetClientImport”, all nodes defining referral, transport or admission events should be contained within this node. Each referral, transport or admission event should be contained within an “episode” node inside of the “picanetClientImport” parent node. Each “episode” node should contain data for one and only one referral, transport or admission event.

Each “episode” node should have the attribute “localID”, the “localID” attribute should be a unique identifier that can be used to link data held in the clinical system of the PICU.

Local id

XML Element:

episode/Attribute: localID

Definition:

Your local identifier

Reason:

to link to records in your clinical system

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
1	1	No	localIDType
Datatype Definition			
Text string: 50 characters			

Episode details node

The “episodeDetails” node contains all demographic information, PIM2 / PIM3 variables and the majority of fields that constitute an admission record. This node is a legacy structure; it dates back to before PICANet collected referral and transport data items.

Data items in this node can be supplied in any order, if some variables are not part of the event type being supplied then they can simply be omitted.

Demographic elements

Demographic information is collected to enable us to uniquely identify a patient and to track them across all PIC services. These variables are used to track a patients treatment and journey across the service. Demographic details are used in the calculation of the PICA Net variable “PatientID” which uniquely identifies an individual in the database based on the data provided.

Demographic data is collected for all event types so that we can hopefully track a patient across multiple referral / transport and admission events.

Family name

XML Element:

episodeDetails/Element:familyName

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 and PICANet Web.
Can help identify individuals who may have had multiple referrals, transport and/or admission events to one or more PICUs.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0		Yes	nameType
Datatype Definition			
Text string: 35 characters			

Family name 2

XML Element:

episodeDetails/Element:familyName2

Definition:

A second family name by which the child might be known.

Reason:

Second 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.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0		Yes	nameType
Datatype Definition			
Text string: 35 characters			

First name

XML Element:

episodeDetails/Element:firstName

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 referrals, transport and/or admission events to one or more PICUs.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0		Yes	nameType
Datatype Definition			
Text string: 35 characters			

Address

XML Element:

episodeDetails/Element:

- address1
- address2
- address3
- Address4

Definition:

The normal place of residence for the child.

Reason:

Address provides an additional identifier that can aid patient tracking throughout the paediatric intensive care service and PICANet Web.

Can help identify individuals who may have had multiple referrals, transport and/or admission events to one or more PICUs.

A full residential address is required to enable geographic and demographic information to be linked to the patient for effective audit and assessment of health services delivery.

A full residential address will allow validation of postcode.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0		Yes	addressType
Datatype Definition			
Text string: 50 characters			

Postcode

XML Element:

episodeDetails/Element:postcode

Definition:

The postcode for the child’s normal place of residence.

Reason:

Postcode provides an additional identifier that can aid patient tracking throughout the paediatric intensive care service and PICANet Web.

Can help identify individuals who may have had multiple referrals, transport and/or admission events to one or more PICUs.

Postcode provides a means of linkage to geographic and demographic information for effective audit and assessment of health services delivery.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0		Yes	postcodeType
Datatype Definition			
Text string: 7 characters			

XML Element:

episodeDetails/Element:nhsNo

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 help identify individuals who may have had multiple referrals, transport and/or admission events to one or more PICUs.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0		Yes	nhsNumberType
Datatype Definition			
Numerical string: 10 characters			

Ineligible for NHS, CHI or H&C number

XML Element:

episodeDetails/Element:NhsIneligible

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.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0		Yes	xs:boolean
Datatype Definition			
Boolean data: True/False			

Case note number

XML Element:

episodeDetails/Element:caseNo

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.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0		Yes	CaseNumberType
Datatype Definition			
Text string: 64 characters			

Date of birth

XML Element:

episodeDetails/Element:dob

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 this paediatric intensive care service. Date of birth provides an additional identifier that can aid patient tracking throughout the paediatric intensive care service, hospital and PICANet Web. Can help identify individuals who may have had multiple referrals and/or admissions to one or more PICUs.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0		Yes	xs:date
Datatype Definition			
Date format: YYYY-MM-DD			

Indicate if date of birth is estimated

XML Element:

episodeDetails/Element:dobEst

Definition:

Specifies whether the date of birth is estimated, anonymised or unknown (and cannot be estimated).

Reason:

Date of birth and Date of admission to your unit are used to calculate age at admission to this paediatric intensive care service.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0		Yes	dobEstimatedType
Datatype Definition			
Enumerated field		<ul style="list-style-type: none">0 Not estimated1 Estimated2 Anonymised9 DOB N/K	

Sex

XML Element:

episodeDetails/Element:sex

Definition:

Identifies the genotypical sex of the child at admission to this paediatric intensive care service.

Reason:

Sex is important for reporting demographic statistics for admissions to your unit or transport service. Sex provides an additional identifier that can aid patient tracking throughout the paediatric intensive care service and PICANet Web.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0		Yes	sexType
Datatype Definition			
Enumerated field:		<ul style="list-style-type: none">1 Male2 Female3 Ambiguous9 N/K	

XML Element:

episodeDetails/Element:ethnic

Definition:

Identifies the child’s ethnic origin, according to standard NHS ethnic categories and codes.

Reason:

Required for epidemiological analysis and assessment of health services delivery.

Potentially of value in clinical audit and research in conjunction with other clinical data.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0		Yes	ethnicType
Datatype Definition			
Enumerated field:		<ul style="list-style-type: none">• A White British• B White Irish• C White other• D Mixed White and Black Caribbean• E Mixed White and Black African• F Mixed White and Asian• G Mixed other• H Asian Indian• J Asian Pakistani• K Asian Bangladeshi• L Asian other• M Black Caribbean• N Black African• P Black other• R Other Chinese• S Other other• Z Not stated• 9 Unknown	

XML Element:

episodeDetails/Element:ethnicOther

Definition:

Identifies the child's ethnicity when they do not fit into any of the NHS catagories

Reason:

Required for epidemiological analysis and assessment of health services delivery.

Potentially of value in clinical audit and research in conjunction with other clinical data.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0		Yes	ethnicOtherType
Datatype Definition			
Text string: 35 characters			

Comments

XML Element:

episodeDetails/Element:comments

Definition:

Any additional information considered relevant to the admission. Text entered in this field may provide extra information about data entered elsewhere in a specific field in the dataset or may provide extra information on the admission, which is not collected as part of the dataset. No identifiers (patient, nurse, doctor, ICU, hospital) should be included in text data entered into this field. As there is limited space in this field all text data should be kept to a minimum and be as concise as possible. Text data must not contain any punctuation except a period (full stop) at the end of each data point.

Reason:

No dataset specification covers all eventualities: to deal with this a text field has been included for comments/additional information.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0		Yes	commentsType
Datatype Definition			
Text string: 500 characters			

Referral node

PICANet collects data for each referral event. A referral is all requests for transport and all requests for a PICU admission when clinicians agree that a paediatric intensive care bed is required. It is also for transport requests where intensive care will be received on the journey. The 'Referral' node contains specific information on a referral event not collected elsewhere. All data items in this node can be supplied in any order, if some variables are not part of the event type being supplied then they can simply be omitted.

XML Element:

referral/Element:agentOrg

Definition:

The organisation completing the referral form.

Reason:

To enable effective audit and assessment of health services delivery.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0	1	No	orgType
Datatype Definition			
Text string: 6 characters			

Referral date

XML Element:

referral/Element:referraldate

Definition:

The actual date when clinicians agreed that the patient required PIC transport and/or a PICU bed, based on the patient’s clinical condition (not the availability of a team or a bed).

This may not be the date of the first telephone call to the PICU or PIC transport service as the first referral call may have been for advice or discussion only.

Reason:

Date and time the referral was agreed will be used to calculate the total number of referral calls for each individual patient. Accurate recording of date and time will allow analysis of organisational delays e.g. due to lack of availability of staffed beds or transport teams.

To enable effective audit and assessment of health services delivery.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0	1	No	xs:date
Datatype Definition			
Date format: YYYY-MM-DD			

Referral time

XML Element:

referral/Element:referraltime

Definition:

The actual time when clinicians agreed that the patient required PIC transport and/or a PICU bed, based on the patient’s clinical condition (not the availability of a team or a bed).

This may not be the date of the first telephone call to the PICU or PIC transport service as the first referral call may have been for advice or discussion only.

Reason:

Date and time the referral was agreed will be used to calculate the total number of referral calls for each individual patient. Accurate recording of date and time will allow analysis of organisational delays e.g. due to lack of availability of staffed beds or transport teams.

To enable effective audit and assessment of health services delivery.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0	1	No	xs:time
Datatype Definition			
Time format: hh:mm:ss			

Referral Number

XML Element:

referral/Element: ReferralNumber

Definition:

Unique identifier assigned to each consecutive referral event.
As recorded within your organisation to identify each referral episode.

Reason:

Referral number provides a unique identifier for each referral episode to an organisation participating in PICANet and thus allows identification of a series of one or more referral events from another.
Required for effective audit and assessment of geographical distribution of referring population to individual transport services/units.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0	1	Yes	eventNumberType
Datatype Definition			
Text string: 10 characters			

Referring unit

XML Element:

referral/Element:referringOrg

Definition:

Identifies the referring hospital, DGH or PICU where patient is located at the time of the referral call.

Reason:

Required for effective audit and assessment of geographical distribution of referring population to individual units/transport services.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0	1	No	orgType
Datatype Definition			
Text string: 6 characters			

XML Element:

referral/Element:referringOrgOther

Definition:

Identifies the referring hospital, DGH or PICU where patient is located at the time of the referral call if 'other'.

Reason:

Required for effective audit and assessment of geographical distribution of referring population to individual units/transport services.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0	1	No	orgOtherType
Datatype Definition			
Text string: 255 characters			

Referring Area

XML Element:

referral/Element:ReferringArea

Definition:

Identifies the care area where the patient is located at the time of the referral call.

- X-ray, endoscopy, CT scanner or similar** - identifies that the child came from an area where diagnostic procedures may have been carried out at the time of collection from the referring hospital
- Recovery only** - means the child was receiving care in the recovery area at the time of collection from the referring hospital
- Level 2 unit (HDU)** - means the child was receiving care in a high dependency area at the time of collection from the referring hospital
- Other intermediate care area** - is an area where the level of care is greater than that of the normal wards, but not an ICU/PICU/NICU or HDU
- Theatre and recovery** - means the child has undergone all or part of a surgical procedure or has received an anaesthetic for a procedure and was receiving care within the theatre and recovery area at the time of collection from the referring hospital
- Other transport service** - the patient is received from a different transport service i.e. at an airport or port for international transfer.
- ICU (Adult)** means the child was receiving care within an adult or other specialist ICU, which is not designated as a PICU, at the time of collection from the referring hospital
- PICU** means the child was receiving care within PICU at the time of collection from the referring hospital
- NICU** means the child was receiving care within NICU at the time of collection from the referring hospital
- Ward** means the child was receiving care in a ward at the time of collection from the referring hospital.
- Emergency Department (A&E)** means the child was receiving care within an Emergency Department at the time of collection from the referring hospital.

Reason:

To enable effective audit and assessment of health services delivery.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0	1	No	collectionAreaType
Datatype Definition			
Enumerated Field:		<ul style="list-style-type: none">1 - X-ray, endoscopy, CT scanner or similar2 - Recovery only3 – Level 2 unit (HDU)4 - Other intermediate care area7 - Theatre and recovery10 - Other transport service11 - ICU (Adult)12 - PICU13 - NICU6 - Ward8 – Emergency Department (A&E)99 – Unknown	

Referring speciality

XML Element:

referral/Element:referringSpeciality

Definition:

Specialty from which this request for admission is made. Record the parent specialty of the doctor who made this call resulting in a transfer.

Examples:

- A patient has elective surgery in a DGH; the operation is complicated and the anaesthetist decides the patient needs PICU for post-op recovery - code Anaesthetics.
- The transport team call the PICU to request a bed and arrange admission - code Paediatric Intensive Care Transport Service.

Reason:

Describes the background from which patients are received for effective audit and assessment of health services delivery.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0	1	No	Speciality
Datatype Definition			
Enumerated field:		<ul style="list-style-type: none">• 1 General paediatrics• 2 Sub-specialty paediatrics• 3 Neonates• 4 Anaesthetics• 5 General ITU• 6 Neurosurgery• 7 General surgery• 8 Accident and Emergency• 9 Burns and plastics• 10 ENT• 11 Other• 12 PICU• 13 Paediatric Intensive Care Transport Service• 99 Unknown	

XML Element:

referral/Element:referringGrade

Definition:

Most senior grade of doctor or nurse making the initial referral call.

Reason:

Required for effective audit of service organisation and geographical variation.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0	1	No	ReferringGrade
Datatype Definition			
Enumerated field:		<ul style="list-style-type: none">1 Consultant / Associate Specialist / Staff Grade2 ST 4 - 83 ST 1 - 34 F1 / F25 GP6 Nurse practitioner7 Nurse9 Unknown	

XML Element:

referral/Element:invasiveVentilation

Definition:

Patient receiving invasive ventilation (by ET tube, laryngeal mask or tracheostomy) or in the process of being intubated at the time the referral is accepted.

Reason:

Used to describe the different clinical ‘thresholds’ at which different services operate. An easily defined variable which discriminates those patients who require intensive care and those who may only require high dependency care.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0	1	No	InvasiveVentilation
Datatype Definition			
Enumerated field:		<ul style="list-style-type: none">1 Yes2 No - not indicated3 No - advised to intubate9 Unknown	

Decision of this referral call

This field has been deprecated in the PICANet Dataset - please do not submit data for this node

XML Element:

referral/Element:referralDecision

Definition:

Final outcome of this event after it has been agreed that a patient requires a PICU bed. The purpose of this field is to collect data on admissions refused for organisational reasons (e.g. lack of beds, transport). In the circumstance where a PICU has no staffed bed available but can provide transport this should be recorded as 'Refused – no staffed bed available'. Add 'accepted for transport only' in comments box.

- **Accepted for transport and/or admission to PICU** –patient accepted for transport and/or admission to the named PICU accepting referral call
- **Accepted for transport and/or admission to other ICU** –patient accepted for transport and admission to other ICU (e.g. burns, neuro, adult ICU)- elsewhere
- **Accepted for transport and/or admission to other destination** –patient transported to destination not included above e.g. secondary transport service to continue journey at airport, hospice or normal place of residence.
- **Refused-no staffed bed available** -admission refused because no staffed bed available
- **Refused- no transport team available** - admission refused because a transport team was not available
- **Refused-no staffed bed or transport team available** - admission refused no staffed bed available and no transport team available
- **Refused-time critical transfer** - the referring DGH/unit are advised to expedite own transport due to the acute condition of patient

Reason:

To enable effective audit and assessment of health services delivery.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0	1	No	ReferralDecision
Datatype Definition			
Enumerated field:		<ul style="list-style-type: none">• 1 Accepted for transport and/or admission to PICU• 2 Accepted for transport and/or admission to other ICU• 3 Accepted for transport and/or admission to other destination• 4 Refused - no staffed bed available• 5 Refused- no transport team available• 6 Refused-no staffed bed or transport team available• 7 Refused – time critical transfer• 9 Unknown	

XML Element:

referral/Element:transportOrg

Definition:

The name of the centralised transport service (PIC), PICU own team, other specialist team or other non-specialist team (DGH) undertaking this episode of transport.

Reason:

To enable effective audit and assessment of health services delivery.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0	1	No	orgType
Datatype Definition			
Text string: 6 characters			

Referral transport outcome

This field has been added to the PICANet dataset on 01/08/2014

XML Element:

referral/Element:TransportOutcome

Definition:

Outcome of this event after clinicians have agreed that a patient requires PIC transport and/or a PIC bed.

The purpose of this field is to collect data on admission or transport events refused for organisational reasons (e.g. lack of beds, transport) and to permit tracking of the patient throughout the paediatric intensive care service and PICANet Web.

TRANSPORT OUTCOME

- **Accepted for transport** - patient accepted for transport
- **Refused - no transport team available** - transport refused because a transport team was not available
- **Refused - time critical transfer** - the referring hospital are advised to expedite own transport due to the acute condition of patient
- **Refused - out of scope of care**- transport is not part of usual commissioning arrangements e.g. transfer request from an out of region referring unit
- **Transport not requested**- admission only requested at the time of this referral

Reason:

To enable effective audit and assessment of health services delivery.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0	1	No	referralTransportOutcome
Datatype Definition			
Enumerated field:		<ul style="list-style-type: none">• 1 Accepted for transport• 2 Refused – no transport team available• 3 Refused – time critical transfer• 4 Refused – out of scope of care• 5 Transport not requested• 9 Unspecified	

Referral admission outcome

This field has been added to the PICANet dataset on 01/08/2014

XML Element:

referral/Element:AdmissionOutcome

Definition:

Outcome of this event after clinicians have agreed that a patient requires PIC transport and/or a PIC bed.

The purpose of this field is to collect data on admission or transport events refused for organisational reasons (e.g. lack of beds, transport) and to permit tracking of the patient throughout the paediatric intensive care service and PICANet Web.

ADMISSION OUTCOME

- **Accepted for admission** - patient accepted for admission by the PICU receiving referral call
- **Refused - no staffed bed available**-admission refused because no staffed bed available
- **Refused - out of scope of care** - admission can be more appropriately provided by another PICU e.g. a child with a history of cardiac admission to a specialist PICU requires care for a condition which may be provided by a regional PICU.
- **Admission not requested** - admission not requested at the time of this referral

Reason:

To enable effective audit and assessment of health services delivery.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0	1	No	AdmissionOutcome
Datatype Definition			
Enumerated field:		<ul style="list-style-type: none">• 1, 'Accepted for admission'• 2, 'Refused – no staffed bed available'• 3, 'Refused – out of scope of care'• 4, 'Admission not requested'• 9, 'Unspecified'	

XML Element:

referral/Element:transportOrgOther

Definition:

The name of the centralised transport service (PIC), PICU own team, other specialist team or other non-specialist team (DGH) undertaking this episode of transport if 'other'.

Reason:

To enable effective audit and assessment of health services delivery.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0	1	No	orgOtherType
Datatype Definition			
Text string: 255 characters			

Destination unit (or location)

XML Element:

referral/Element:destinationOrg

Definition:

The destination unit / admitting PICU/location identifies the exact destination that the patient was taken to at the end of the transport episode. Enter postcode if child has been transferred to normal residence or hospice.

Reason:

Required for geographic information to be linked to assessment of health services delivery.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0	1	No	orgType
Datatype Definition			
Text string: 6 characters			

Destination unit (or location) other

XML Element:

referral/Element:destinationOrgOther

Definition:

The destination unit / admitting PICU/location identifies the exact destination that the patient was taken to at the end of the transport episode. Enter postcode if child has been transferred to normal residence or hospice if 'other'.

Reason:

Required for geographic information to be linked to assessment of health services delivery.

Minimum Occurrences	Maximum Occurrences	Is Node Nillable?	XML datatype
0	1	No	orgOtherType
Datatype Definition			
Text string: 255 characters			