



PICANet Custom Data Collection COVID-19 II

Version 2.1 (October 2022)

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Background

COVID-19 Data Collection

PICANet developed the first COVID-19 Customised Data Collection in May 2020 (v 1.1) in collaboration with the Clinical Advisory Group and Paediatric Intensive Care Society (now Paediatric Critical Care Society) to collect data on those children (<18 years) found to be COVID-19 positive. From the 7th December 2020, this was extended to collect data on those children clinically diagnosed with PIMS-TS, confirmed by the absence of another cause, who may also have a positive COVID-19 polymerase chain reaction (PCR) test. A second revised version, COVID-19 II Customised Data Collection v1.0, was devised in December 2021 with input from clinicians. The COVID-19 II data collection differs from the first version in that the section on testing and sampling for COVID-19 is removed, and an additional collection of data items regarding PIMS-TS and potential COVID-19 vaccine related complications have been added. This updated version 2.0 has some slight changes to the original COVID-19 II format to capture all the different types of vaccination for each child in this custom audit.

In October 2022 the COVID-19 II Customised Data Collection v2.1 was expanded to include those children with COVID-19 confirmed by lateral flow device (LFD) as well as PCR test in response to changes in testing practice.

COVID-19 II will collect information about only **one** of the following:

1. Children aged less than 18 years clinically diagnosed with PIMS-TS (who may also have a positive COVID-19 PCR or LFD test) **or**
2. Children aged less than 18 years for whom a diagnosis of COVID-19 is confirmed by laboratory diagnosis or lateral flow device test during or immediately prior to admission to a paediatric intensive care unit (PICU) **or**
3. A child aged less than 18 years with suspected or potential COVID-19 vaccine- related complications (e.g. myocarditis/pericarditis) (not PIMS-TS or COVID-19 confirmed by PCR or LFD).

Please note:

- Please continue to record the **PICANet admission events** for all confirmed cases of COVID-19 and PIMS-TS, and suspected or probable COVID vaccination myocarditis ASAP, either manually or electronically, including all daily interventions, diagnostic and discharge data, ethnicity, PIM, weight, Primary Diagnosis, and at least one other diagnostic code in 'Other reasons for admission' for this admission, plus co-morbidities where appropriate **and**
- Complete the **COVID-19 II** Customised data collection using the appropriate selection/drop down box (choose only one). If for example a child tests positive for COVID-19 and then is later clinically diagnosed with PIMS-TS please enter the child as PIMS-TS, or retrospectively complete the PIMS-TS tab overriding the initial COVID tab **and**
- Continue to return the **PICANet COVID-19/PIMS-TS** reporting spreadsheet according to the frequency indicated by PICANet (this may be weekly, fortnightly or monthly as required) and recording of custom audit data.

Diagnostic coding for COVID-19, PIMS-TS, and suspected or probable COVID vaccination myocarditis are given at the end of this Dataset Definitions Manual.

Recording Transport event data for all confirmed cases of COVID-19/PIMS-TS/suspected or probable COVID vaccination complications – choose one of the three options of:

- PIMS-TS
- COVID-19 confirmed by PCR or LFD (not PIMS-TS)
- Potential COVID-19 vaccine-related complications

Data collection method

1. A PICANet COVID-19 II customised data collection form is completed for all admissions to PICU, for whom the diagnosis of COVID-19 was confirmed as positive by laboratory testing or lateral flow device test, **or** PIMS-TS exclusive of any other microbial cause, **or** potential COVID-19 vaccine-related complications.

COVID-19 II Custom Data Collection Form (Version 2.1 September 2022).



Paediatric Intensive Care Audit Network - Custom data collection

COVID-19 II

Please complete for all PICU admissions with **paediatric inflammatory multisystem syndrome temporally associated with SARS-CoV-2 (PIMS-TS)** and/or with **COVID-19 confirmed by polymerase chain reaction (PCR) or lateral flow device (LFD) test** and/or with **potential COVID-19 vaccine-related complications, e.g. myocarditis/pericarditis**

Patient details (or hospital label)

Family name <input type="text"/>	Postcode <input type="text"/>	Case note number <input type="text"/>
First name <input type="text"/>	NHS/CHI/H&C number <input type="text"/>	Date of birth (dd/mm/yyyy) <input type="text"/>

All admissions (with PIMS-TS, COVID-19 confirmed by PCR/LFD test, or potential COVID-19 vaccine-related complications)

Reason for reporting <input type="checkbox"/> PIMS-TS <input type="checkbox"/> COVID-19 confirmed by PCR/LFD test (not PIMS-TS) <input type="checkbox"/> Potential COVID-19 vaccine-related complications, e.g. myocarditis/pericarditis (not PIMS-TS or COVID-19 confirmed by PCR/LFD test)	Does the patient have any underlying comorbidities? <input type="checkbox"/> No <input type="checkbox"/> Yes—record comorbidities in Diagnoses and procedures section of PICANet admission	Number of doses of COVID-19 vaccine received (if patient is not vaccinated, record 0) <input type="text"/> Date of most recent COVID-19 vaccine <input type="text"/> Type of most recent COVID-19 vaccine <input type="checkbox"/> Moderna <input type="checkbox"/> Oxford/AstraZeneca <input type="checkbox"/> Pfizer/BioNTech <input type="checkbox"/> Janssen
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PIMS-TS

Complete this section if reason for reporting is **PIMS-TS**

COVID-19 PCR/LFD test result during this admission <input type="checkbox"/> Positive <input type="checkbox"/> Negative Date of earliest positive COVID-19 test (include historic data if infection several weeks prior to PIMS-TS) <input type="text"/> Main reason for PIMS-TS admission <input type="checkbox"/> Cardiovascular support <input type="checkbox"/> Gastrointestinal symptoms <input type="checkbox"/> Respiratory support <input type="checkbox"/> Other (specify) <input type="text"/>	Echo findings at any time during PICU stay (tick all that apply) <input type="checkbox"/> Echo not done <input type="checkbox"/> Normal <input type="checkbox"/> Reduced function <input type="checkbox"/> Effusion <input type="checkbox"/> Valve regurgitation <input type="checkbox"/> Bright coronaries <input type="checkbox"/> Dilated coronaries/aneurysm	Treatment for PIMS-TS (tick all that apply) <input type="checkbox"/> None <input type="checkbox"/> IVIG <input type="checkbox"/> Steroids <input type="checkbox"/> Tocilizumab <input type="checkbox"/> Anakinra <input type="checkbox"/> Infliximab <input type="checkbox"/> Baricitinib <input type="checkbox"/> High-dose aspirin <input type="checkbox"/> Low-dose aspirin <input type="checkbox"/> Other (specify) <input type="text"/>
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Form completed by

continued over

Contact us · picanet@leeds.ac.uk · 0113 343 8125

For more contact details, go to
picanet.org.uk/contact-us

For information about this custom data collection, go to
picanet.org.uk/covid-19

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Complete this section if reason for reporting is **COVID-19 confirmed by PCR/LFD test (not PIMS-TS)**

Date of earliest positive test (including immediately prior to PICU admission)
 / /

Symptoms (tick all that apply)

☐ No symptoms attributed to COVID-19 throughout PICU stay / asymptomatic

RESPIRATORY

☐ Respiratory

CARDIOVASCULAR

☐ Shock

☐ Myocarditis

NEUROLOGICAL

☐ Seizures

☐ Encephalopathy

☐ Other neurological symptoms (specify)

GASTROINTESTINAL

☐ Gastrointestinal

OTHER

☐ Other symptoms attributed to COVID-19 (specify)

Treatment for COVID-19 (tick all that apply)

☐ None

☐ Steroids

☐ Tocilizumab/sarilumab

☐ Baricitinib

☐ Remdesivir

☐ Plasma

☐ Monoclonal antibodies

☐ Molnupiravir

☐ Prophylactic dose anticoagulation

☐ Therapeutic dose anticoagulation

☐ Other (specify)

If patient died, was death related to COVID-19?

☐ Yes

☐ No

☐ Not applicable (patient alive at discharge)

Complete this section if reason for reporting is **potential COVID-19 vaccine-related complications, e.g. myocarditis/pericarditis** (not PIMS-TS or COVID-19 confirmed by PCR/LFD test)

Has the patient suffered from COVID-19 infection or PIMS-TS in the past?	Investigations (tick all that apply)	Treatment for potential COVID-19 vaccine-related complications (tick all that apply)
<input type="checkbox"/> Yes, COVID-19 only <input type="checkbox"/> Yes, PIMS-TS only <input type="checkbox"/> Yes, both COVID-19 and PIMS-TS <input type="checkbox"/> No, neither <input type="checkbox"/> Unknown	<input type="checkbox"/> None ECG <input type="checkbox"/> ST-elevation (pericarditis) <input type="checkbox"/> Nonspecific ST-T changes <input type="checkbox"/> Ischaemic changes <input type="checkbox"/> Arrhythmia ECHO <input type="checkbox"/> Impaired myocardial function <input type="checkbox"/> Pericardial effusion <input type="checkbox"/> Coronary artery changes <input type="checkbox"/> Valve regurgitation CARDIAC ENZYMES <input type="checkbox"/> Peak troponin <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 40px; height: 20px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin-right: 5px;"></div> <div style="margin-left: 5px;">ng/L</div> </div> <input type="checkbox"/> Peak NT-proBNP <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 40px; height: 20px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin-right: 5px;"></div> <div style="margin-left: 5px;">ng/L</div> </div> <input type="checkbox"/> Peak BNP <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 40px; height: 20px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin-right: 5px;"></div> <div style="margin-left: 5px;">pmol/L</div> </div> CARDIAC MR <input type="checkbox"/> Impaired function <input type="checkbox"/> Myocardial oedema <input type="checkbox"/> Hyperaemia or late gadolinium enhancement OTHER <input type="checkbox"/> Other (specify) <div style="border: 1px solid black; width: 150px; height: 20px; margin-top: 5px;"></div>	<input type="checkbox"/> None <input type="checkbox"/> Aspirin <input type="checkbox"/> Steroids <input type="checkbox"/> Other anti-platelet <input type="checkbox"/> Inotropes <input type="checkbox"/> ACE-I or ARB <input type="checkbox"/> Anti-arrhythmics and/or beta blockers <input type="checkbox"/> Other (specify) <div style="border: 1px solid black; width: 150px; height: 40px; margin-top: 5px;"></div> Outcome at PICU discharge <input type="checkbox"/> Complete resolution of signs/symptoms <input type="checkbox"/> Partial resolution of signs/symptoms <input type="checkbox"/> Other, if not a cardiac manifestation (specify) <div style="border: 1px solid black; width: 150px; height: 40px; margin-top: 5px;"></div> Echo at discharge <input type="checkbox"/> Not done <input type="checkbox"/> Normal <input type="checkbox"/> Abnormal Cardiac MR at discharge <input type="checkbox"/> Not done <input type="checkbox"/> Normal <input type="checkbox"/> Abnormal

2. When the PICU enters or uploads to PICANet web the admission event data, the additional customised dataset is manually recorded onto the COVID-19 II tab. The tab is available for all children admitted from the 13th December 2021.

The screenshot shows a web interface for data entry. At the top, there is a blue header bar with buttons for 'Save', 'Cancel', and 'Delete' on the left, and '< Back' and 'Next >' on the right. Below the header is a navigation menu with tabs: 'Patient details', 'Admission details', 'PIM', 'Diagnoses and procedures', 'Daily interventions', 'Summary interventions', 'Trial + Growth', 'Discharge + Follow-up', 'Comments', 'Legacy data', and 'COVID-19 II'. The 'COVID-19 II' tab is currently selected and highlighted in blue. Below the navigation menu is a light blue informational box containing the text: 'Complete for all PICU admissions with PIMS-TS and/or with COVID-19 confirmed by PCR/LFD and/or with potential COVID-19 vaccine-related complications, e.g. myocarditis/pericarditis'. The main content area is titled 'All admissions' and contains several form fields: 'Reason for reporting' (a dropdown menu), 'Does the patient have any underlying comorbidities?' (a dropdown menu), 'Number of doses of COVID-19 vaccine received' (a dropdown menu), 'Date of most recent COVID-19 vaccine' (a date input field with a placeholder 'dd/mm/yyyy'), and 'Type of most recent COVID-19 vaccine' (a dropdown menu). At the bottom of the form, there is another set of buttons: 'Save', 'Cancel', and 'Delete' on the left, and '< Back' and 'Next >' on the right.

Then:

1. Select one of the options in the drop down box.
2. Enter the dataset recorded on the COVID-19 II paper customised data collection form (if used).

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	<p>Family name provides an additional identifier that can aid patient tracking throughout the hospital and PICA Net Web.</p> <p>Can help identify individuals who may have had multiple admissions to one or more PICUs.</p>
Format	<p>Free text (e.g. Brown).</p> <p>If no family name available record as UNKNOWN</p>

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	<p>First name provides an additional identifier that can aid patient tracking throughout the hospital and PICA Net Web.</p> <p>Can help identify individuals who may have had multiple referrals and /or admissions to one or more PICUs.</p>
Format	<p>Free text (e.g. John).</p> <p>If no first name available record as UNKNOWN</p>

Postcode

Definition	The postcode for the child's normal place of residence.
Reason	<p>Postcode provides an additional identifier that can aid patient tracking throughout the hospital and PICA Net Web.</p> <p>Can help identify individuals who may have had multiple admissions to one or more PICUs.</p> <p>Postcode provides a means of linkage to geographic and demographic information for effective audit and assessment of health services delivery.</p>
Format	<p>Text (e.g. S10 8NN).</p> <p>Foreign postcodes will be accepted by the software, although a warning will be generated in the case of non-UK standard postcodes to ensure that the user checks the data.</p> <p>If postcode is unobtainable, record as UNKNOWN</p>

NHS, CHI or H&C number

Definition	Unique identifying number enabling tracing of a patient through the NHS system in England, Wales and Northern Ireland. 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.
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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.
Format	Free text (e.g. 1463788990). Validation check that NHS, CHI or H&C number is a valid number

Case note number

Description	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).

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.
Format	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 referrals and/or admissions to one or more PICUs. Date: dd/mm/yyyy Date of birth should be on or prior to the Date of admission. If the child's date of birth is unobtainable, but the child is under your care, use your judgement to estimate year of birth and record as 1 st January of estimated year)e.g. 01/01/YYYY
Validation rule	Warning if patient is aged 18 years or older

COVID-19 II Dataset

Reason for reporting

Please record one reason only for opening and recoding the admission event onto the COVID-19 II customised dataset tab by selecting one of the options in the drop down box. These are:

1. PIMS-TS (regardless of positive or negative COVID-19 PCR/LFD test result)
2. COVID-19 confirmed by PCR/LFD (not PIMS-TS)
3. Potential vaccine-related complications (e.g. myocarditis/pericarditis)

PIMS-TS

Definition	Identifies whether the child has a clinical diagnosis of paediatric Inflammatory multisystem syndrome (PIMS-TS) temporally associated with SARS-CoV-2 (COVID-19).
Reason	To identify the incidence of PIMS-TS in the paediatric population and allow for effective audit & assessment of the demand for PIC.
Format	Select the option from the drop down box/tick box

COVID-19

Definition	Identifies whether the child has a COVID-19 confirmed positive test result prior to this admission to PICU
Reason	To identify the incidence of COVID-19 in the paediatric population and allow for effective audit and assessment of the demand for PIC
Format	Select the option from the drop down/tick box

Potential COVID-19 vaccine related complications

Definition	Identifies whether a child has probable or suspected COVID – 19 vaccine related complications e.g. myocarditis/pericarditis (<i>not PIMS-TS or COVID-19 confirmed by PCR/LFD</i>)
Reason	To identify the incidence of COVID-19 vaccine related complications for Effective audit & assessment of COVID-19 vaccine related complications.
Format	Select the option from the drop down/tick box

Does the patient have any underlying conditions?

Definition	Identifies whether a child has any underlying co-morbidities recorded on admission of the child to your unit Identifies other problems the child had prior to admission to your unit, Which may or may not be related to the reason for this admission. Co-morbidity relates to any underlying condition recorded in the notes. E.g. Trisomy 21.
Reason	Required for clinical audit, epidemiological analysis, and assessment of health services delivery.
Format	Choose from one of the following: <ul style="list-style-type: none">• No• Yes – record co-morbidities in Diagnoses and procedures section on PICANet admission.
Free text	If code unknown or not available in the diagnoses and procedures section in PICANet Web please enter a free text description of the co-morbidity Given in clinical notes and/or discharge

Number of doses of COVID 19 vaccine received

(If patient is not vaccinated, record 0)

Definition	Identifies the number of doses of vaccine received at time of PICU admission
Reason	To better understand COVID-19 vaccine uptake and vaccine related complications
Format	Report the number of vaccine(s) in the box provided
Validation	Expecting a number from one or zero if not vaccinated

Date of most recent COVID 19 vaccine

Definition	Records the date of the most recent vaccine dose
Reason	To gain an understanding of the time in between the dose of the last vaccine and admission to PICU
Format	Date: dd/mm/yyyy
Validation	Warning if value not entered

Type of most recent COVID 19 vaccine

Definition	Specifies the make of the COVID-19 vaccine that the child has received (if applicable)
Reason	Important for assessing vaccine status and any differences in the type of vaccine received
Format	Specify whether: <ul style="list-style-type: none">• Moderna• Oxford/AstraZeneca• Pfizer/BioNTech• Janssen
Validation	Warning if type of vaccine not specified and date of most recent vaccine entered

PIMS-TS

Complete this section if reason for reporting is PIMS-TS.

COVID-19 PCR/LFD test result during this admission

Definition	Identifies whether the child's PCR/LFD test result was negative or positive to COVID -19
Reason	Required for clinical audit, epidemiological analysis and assessment of health services delivery.
Format	Choose from the one of the following: <ul style="list-style-type: none">• Positive• Negative

Date of earliest COVID-19 positive test result

Include historic data if infection several weeks prior to PIMS-TS

Definition	The actual date of the earliest COVID-19 positive PCR/LFD test result whether prior to admission to PICU, during the admission to PICU, but also includes a test undertaken in another ward or department in the same hospital and/or the original admitting hospital for children retrieved/transferred to PICU.
Reason	Date of PCR/LFD testing is used to identify cases where more than one testing session was undertaken in order to identify a confirmed positive COVID-19 diagnosis.
Format	Date: dd/mm/yyyy.

Main reason for PIMS-TS admission

Definition	Specifies the types of symptoms that the child may have presented with on admission to PICU with clinically diagnosed or suspected PIMS-TS, and the type of support that was required to care for the child.
Reason	Required to identify the frequency and range of symptoms present in Children admitted to PICU with clinically diagnosed or suspected PIMS-TS
Format	Tick all that apply <ul style="list-style-type: none">• Cardiovascular support• Gastrointestinal symptoms• Respiratory support• Other reasons – please specify in the free text e.g. renal support

Echo findings at the time of PICU stay

Please tick all that apply

Definition	<p>Identifies the results of the echocardiogram (scan of the heart) findings at any point during the child's stay on your PICU.</p> <p>Echo not done – no echocardiogram undertaken at any point in the child's stay on your unit.</p> <p>Normal- no abnormal echocardiogram findings reported.</p> <p>Reduced function -echocardiogram shows reduced function in either the left or the right side of the heart. Usually based on fractional shortening or ejection fraction or visual appearance.</p> <p>Effusion – echocardiogram shows evidence of a pericardial effusion (build up of fluid around the heart).</p> <p>Valve regurgitation- echocardiogram shows evidence of any of the valves demonstrate regurgitation e.g. mitral regurgitation.</p> <p>Bright coronaries –echocardiogram shows evidence of enhanced perivascular echo brightness/high intensity echoes.</p> <p>Dilated coronaries/aneurysm – echocardiogram shows evidence of dilated coronary artery or arteries and/or coronary aneurysm.</p>
Reason	Required to understand the echocardiogram findings in relation to PIMS-TS
Format	<p>Tick all that apply:</p> <ul style="list-style-type: none">• Echo not done• Normal• Reduced function• Valve regurgitation• Bright coronaries• Dilated coronaries/aneurysm
Validation	Warning if no values entered and box not ticked for 'Echo not done'

Treatment

Please tick all that apply

Definition	<p>The treatment or medication used to treat a clinically diagnosed PIMS-TS child in your unit.</p> <p>No treatment – none of the treatments listed, and no other antiviral, or immune modulator medication has been used.</p>
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IVIG – the use of Intravenous immune globulin, such as Vigam, Gammaplex, Privigen etc.

Steroids – Oral, IM, and IV corticosteroids such as methylprednisolone, prednisolone, dexamethasone (excluding administration for airway swelling).

Tocilizumab – either subcutaneous or intravenously

Anakinra – Kineret – subcutaneously

Infliximab – Remicade – intravenously

Baricitinib –Olumiant –oral

High dose aspirin – in the dose range of 20-100mg/kg/day in divided doses.

Low dose aspirin – in the dose range of ~5mg/kg/day limited to 150 mg max.

Other treatment – specify in the free text box

Reason	To record the identify treatment and/or medication in a clinically diagnosed PIMS-TS child
Format	<p>Tick all that apply:</p> <ul style="list-style-type: none">• No treatment• IVIG• Steroids• Tocilizumab• Anakinra• Infliximab• Baricitinib• High-dose aspirin• Low-dose aspirin• Other treatment (specify in free text box)
Validation	Warning if no values not entered and box not ticked for 'No Treatment'

COVID-19 confirmed by PCR/LFD

Please complete this section if reason for reporting is COVID-19 confirmed by PCR or LFD and not PIMS-TS.

Date of earliest positive test

Including immediately prior to PICU admission.

Definition	Identifies the actual date when the child had a COVID-19 confirmed positive test result including the time immediately prior to PICU admission Includes a test undertaken in another ward or department in the same hospital and/or the original admitting hospital for children retrieved or transferred to the PICU.
Reason	Date of testing assists with tracking of the testing process and can be used to identify the time between the earliest positive test and PICU admission.
Format	Date: dd/mm/yyyy
Validation rule	Warning if value not entered

Symptoms

Please tick all that apply

Definition	Identifies the clinical features shown by the child admitted to PICU with a diagnosis of COVID-19 confirmed by PCR/LFD. Tick all that apply: No symptoms attributed to COVID-19 throughout PICU stay / asymptomatic Respiratory – such as increased work of breathing, cough, runny nose Cardiovascular – such as shock or myocarditis Neurological – signs of seizures, encephalopathy, or other neurological symptom (please specify in free text box) Gastrointestinal – nausea, vomiting or diarrhoea Other – attributed to COVID-19 such as anosmia, fever > 37.8 °C, rash (please specify in free text box)
Reason	Required to understand the occurrence of clinical symptoms identified in children with COVID-19 admitted to paediatric intensive care.
Format	Tick all that apply

- No symptoms
- Respiratory
- Cardiovascular – shock and/or myocarditis
- Neurological – seizures and/or encephalopathy and/or ‘other neurological symptom to specify
- Gastrointestinal
- Other symptom attributed to COVID-19 (please specify)

Validation Warning if no symptoms entered and box not ticked for ‘No symptoms asymptomatic throughout PICU stay’

Treatment

Please tick all that apply

Definition Identifies the treatment(s) used when a child has been diagnosed as COVID-19 positive on PCR/LFD. Tick all that apply:

No treatment – none of the treatments listed or specified and no other antiviral, antibiotic, or immune modulator medication has been used to treat this child.

Steroids – Oral, IM, and IV corticosteroids such as methylprednisolone, prednisolone, dexamethasone (excluding administration for extubation)

Tocilizumab/Sarilumab – immune modulator medication

Baricitinib – Olumiant –oral

Remdesivir – Veklury –intravenous

Convalescent Plasma

Monoclonal antibodies

Molnupiravir – Lagevrio

Prophylactic dose anticoagulation – often a fixed dose of heparin without dose titration based on aPTT or anti-Xa results.

Therapeutic dose anticoagulation – with dose titration aiming for an aPTT target >55-65 or anti-Xa >0.3-0.5 regardless of low molecular weight or unfractionated heparin.

Other treatment –please specify in the free text box

Reason Required to identify the treatment and/or medication given to children diagnosed as COVID-19 positive on PCR/LFD

Format	Tick all that apply: <ul style="list-style-type: none"> • No treatment • Steroids • Tocilizumab/Sarilumab • Baricitinib • Remdesivir • Plasma • Monoclonal antibodies • Molnupiravir • Prophylactic dose anticoagulation • Therapeutic dose anticoagulation • Other treatment (please specify in the free text box)
Validation	Warning if no values entered and box not ticked for 'No treatment'

If the patient died, was death related to COVID-19?

Definition	Records whether the death of the child in PICU was related to COVID-19
Reason	Required to understand the impact of COVID-19 on children, for epidemiological purposes and planning of health services.
Format	Choose from one of the following: <ul style="list-style-type: none"> • Yes the death was related to COVID-19 • No the death was not related to COVID-19 • Not applicable – child alive at time of discharge
Validation	Warning if value not entered or conflict with 'status at discharge'

Potential COVID-19 vaccine related complications e.g. myocarditis/pericarditis

Complete this section if reason for reporting is potential COVID-19 vaccine related complications e.g. myocarditis/pericarditis (not PIMS-TS or COVID-19 confirmed with PCR/LFD)

Has the patient suffered from COVID-19 infection of PIMS-TS in the past?

Definition	Records whether the child has previously been identified as being COVID-19 positive confirmed by PCR/LFD, and/or been clinically diagnosed with PIMS-TS
Reason	Required to identify and understand the incidence of COVID-19 positive cases and/or PIMS-TS and COVID-19 vaccine related complications
Format	Choose from one of the following options: <ul style="list-style-type: none">• Yes – COVID-19 only• Yes – PIMS-TS only• Yes – both COVID-19 and PIMS-TS• No – neither PIMS-TS or COVID-19• Unknown
Validation	Warning if no value entered

Symptoms

Please tick all that apply

Definition	Identifies the clinical features shown by the child admitted to PICU with potential COVID-19 vaccine-related complications These include cardiac, respiratory, systemic and other specified symptoms
Reason	Required to understand the type and occurrence of clinical symptoms identified in children treated for potential COVID-19 vaccine related complications
Format	Tick all that apply: <ul style="list-style-type: none">• Chest pain• Fever• Breathlessness• Palpitation• Pericardial effusion• Other symptom –specify other symptom in the free text box
Validation	Warning – symptoms must not be missing

Investigations

Please tick all that apply

Definition	<p>Records the number and type of investigations carried out in PICU during this admission and their findings</p> <p>Includes electrocardiogram (ECG) investigations and findings, echocardiogram (echo) findings, cardiac enzymes, cardiac magnetic resonance (MR) findings, and specified other.</p> <p>If the results of the investigations such as documented echo findings or laboratory results are pending return at the time of data completion, please ensure the data is subsequently completed</p>
Reason	<p>Required to identify the investigations carried out, and the occurrence and type of findings in this cohort of children</p>
Format	<p>Please tick all that apply:</p> <ul style="list-style-type: none">• No investigations• ECG: ST-elevation (pericarditis)• ECG: NONspecific ST-T changes• ECG: Ischaemic changes• ECG: Arrhythmia• ECHO: Impaired myocardial function• ECHO: Pericardial effusion• ECHO: Coronary artery changes• ECHO: Valve regurgitation• CARDIAC ENZYMES: Peak Troponin: Numerical value e.g. 9,750ng/l• CARDIAC ENZYMES: Peak NT-proBNP: Numerical value e.g. 157 ng/l• CARDIAC ENZYMES: Peak BNP: Numerical value e.g. 2.789 ng/l• CARDIAC MR: Impaired Function• CARDIAC MR: Myocardial ischaemia• CARDIAC MR: Hyperaemia or late gadolinium enhancement• OTHER Investigations – please specify in the free text box.
Validation	<p>Warning if no values entered and box not ticked for 'No Investigations'</p>

Treatment

Please tick all that apply

Definition	<p>Records the type of treatment (if any) was given to the child during this PICU admission</p> <p>Aspirin, steroids, other antiplatelet therapy (e.g. dipyridamole), the use of inotropes (e.g. adrenaline, milrinone), ACE – I (angiotensin converting enzyme inhibitor, e.g. captopril), or ARB (angiotensin receptor blocker e.g. losartan), anti arrhythmics (e.g. amiodarone), and/or beta blockers (e.g.</p>
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propranolol), and any other specified treatment.

Reason	To identify and record the different types of treatment given to a child in PICU with potential COVID-19 vaccine related complications
Format	Tick all that apply: <ul style="list-style-type: none">• No treatment• Aspirin• Steroids• Other anti-platelet• Inotropes• ACE-I or ARB• Anti-arrhythmics and/or beta blockers• Other treatment – please specify in the free text box
Validation	Warning if no values entered and box not ticked for 'No treatment'

Outcome at PICU discharge

Definition	Records the status of the child with potential COVID-19 vaccine related complications on discharge from your unit
Reason	To identify cardiac and other signs/symptoms following potential COVID-19 vaccine related complications for planning and assessment of healthcare services
Format	Tick the box that applies to outcome at PICU discharge <ul style="list-style-type: none">• Complete resolution of signs/ symptoms• Partial resolution of signs/symptoms• Other – if not a cardiac manifestation (please specify in the free text box)
Validation	Warning- expecting an outcome at discharge

Echo findings at discharge

Definition	Records the echocardiogram findings at the time of discharge from PICU
Reason	To identify echocardiogram findings at the point of PIC discharge for review of treatment and planning of healthcare services in a child with potential COVID-19 vaccination complications
Format	Please tick one option: <ul style="list-style-type: none">• Not done – no echocardiogram done• Normal – normal echocardiogram findings at time of discharge

- **Abnormal** – abnormal echocardiogram findings present at time of discharge

Validation Warning if no value entered and box 'Not done' not ticked

Cardiac Magnetic Resonance at time of discharge

Definition Records the cardiac magnetic resonance (MR) findings present at the point of discharge

Reason To identify cardiac MR findings at the point of PIC discharge for review of treatment and planning of healthcare services.

Format Please tick one option:

- Not done – no cardiac MR performed
- Normal – Normal Cardiac MR findings at the point of discharge
- Abnormal – Abnormal Cardiac MR findings at the point of discharge

Validation Warning if no values entered and box not ticked for 'not done'

Diagnostic coding for reference

The READ coding directory on PICANet Web includes the codes for the following:

COVID

A795. Coronavirus infection

Y20d1 Confirmed Coronavirus (COVID-19) infection

Y20cf Suspected Coronavirus (COVID-19) infection

PIMS-TS

X40Yk Systemic Inflammatory Response Syndrome (SIRS)

G7510 Kawasaki syndrome (the clinical picture which may occur as part of PIMS-TS)

COVID-19 vaccine related complications

No READ codes available as yet: suggest:

G5y0. Myocarditis NOS

G52.. Acute myocarditis

XE0Up Acute pericarditis