Case capture - BSI
User guide

ICU Data Capture System

Contents

Document history

Revision date	Author	Version	Changes
02/07/2018	Public Health England	1.0	-
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06/12/2024	William McMillan and Andrea Mazzella, UK Health Security Agency	1.2	• Moved much information to the surveillance protocol (and replaced with cross-references to protocol) • Updated branding (PHE to UKHSA)

Introduction

This user guide shows you how to report positive blood cultures (PBC) using case capture, an electronic form in the ICU Data Capture System (DCS).

Please note that there is an alternative way to enter PBC data: the Data Upload Wizard. For details, please see the Data Upload Wizard user guide.

Accessing the case capture form

Once you have logged into the ICU DCS, there are two ways of accessing the case capture form: via the Case Capture link or via the Search link.

Using the Case Capture link

- From the Menu Toolbar on the left hand side of the screen, click on 'Case Capture' link (Figure 1).
- Click on 'Enter a case'.

Figure 1. Case Capture section in the Menu toolbar
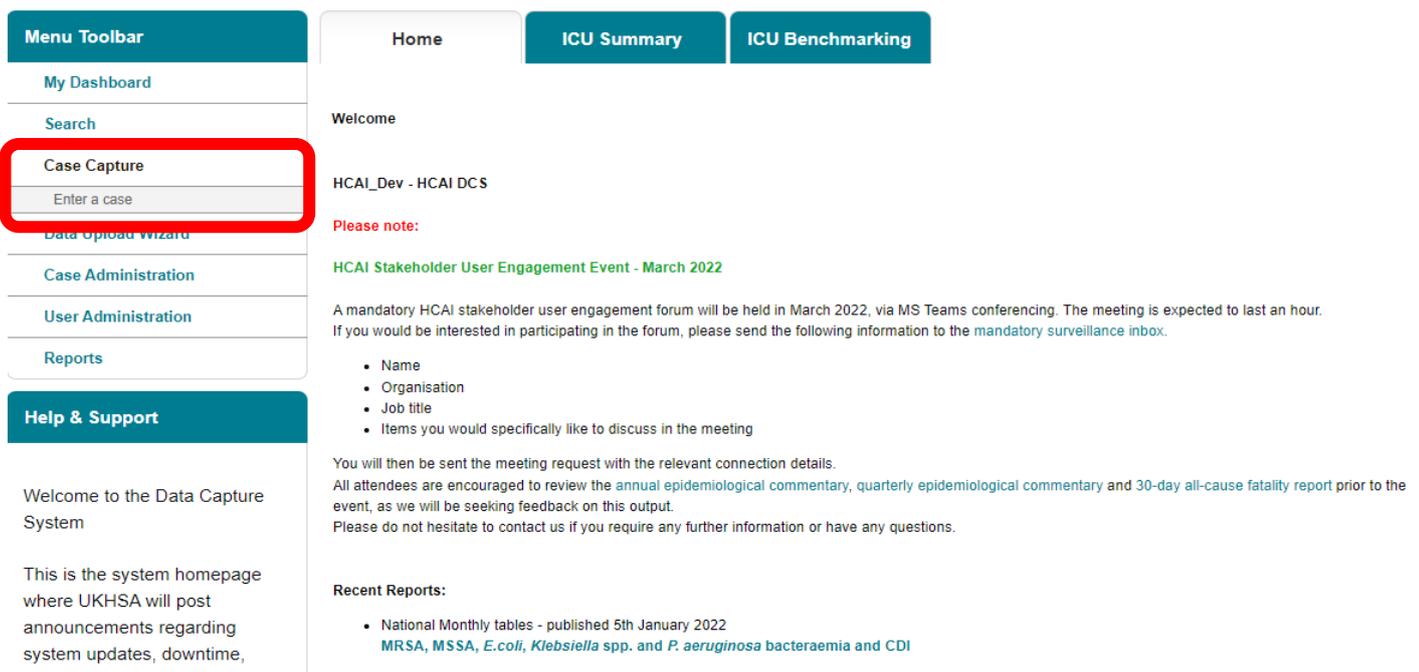
The DCS will go to the 'New Infection Episode' screen. In the 'Data Collection' field, please 'ICU Blood Stream Infection' (Figure 2).

Figure 2. 'New Infection Episode' screen

The selection will redirect you to the first section of the positive blood culture case capture screen (Figure 3).

Using the Search function

Alternatively, if you need to first check whether the PBC has been already submitted, you can use the Search functionality; please see the 'Search, amend or delete records' user guide for details. From there, you will be able to report a new case: you will be redirected to the 'Episode Details' tab of the case capture form (Figure 3).

Case capture form

Please note that, even if the data collection is titled 'ICU Blood Stream Infections', all positive blood cultures specified in the surveillance protocol need to be reported, including those believed to be episodes of contamination rather than true infection.

Case capture for this collection consists of up to the following seven tabs (Figure 3):
- Episode Details
- Positive Blood Culture
- Clinical Symptoms
- Repeat Positive Blood Culture (this only appears if one or more organisms are skin commensals)
- Treatment
- CVC Data
- Source of Infection

Figure 3. ICU Blood Stream Infections tabs

Throughout the tabs:
- Fields marked with a red asterisk (*) are mandatory for saving: you will not be able to save the case or continue to the next tab until you have completed these sections with data that is within the range of accepted values.
- Fields marked with a red hash (#) - are mandatory for sign-off. If one of these fields is left incomplete for even a single record, it will not be possible to sign off the whole month's worth of data (see the 'Sign-off' user guide for details). Please see these fields as mandatory; however, sometimes the data for these fields becomes available at a later point, the functionality of 'mandatory for sign-off' gives users a buffer of time to update these at a later point (but no later than the sign-off deadline).
- Blue question mark icons (❷) can be clicked to obtain further information on some fields
- Dates need to be entered in dd/mm/yyyy format. You may use the calendar icon (▦) to facilitate the identification of a specific day, month, and year.
- Times need to be entered in hh:mm format. You may use the clock icon (🕲) to facilitate this.

'Episode Details' tab

This tab includes essential information about the patient, their ICU admission and the specimen (Figure 4).

Figure 4. 'Episode Details' tab

For details on how to complete these fields, please refer to the surveillance protocol.

Once you have completed at least all the mandatory fields, click on the 'Next' button at the bottom right.

The ICU DCS will now run some basic data validation. For example, it will check that specimen date does not precede the date of ICU admission; if it does, it will throw an error.

Please note that the case is not saved until you also complete all mandatory field in the 'Positive Blood Culture' tab and validation is completed.

'Positive Blood Culture' tab

This tab captures the organisms identified in this positive blood culture.

Initially, this will only ask you how many organisms were cultured from this specimen (Figure 5).

Figure 5. 'Positive Blood Culture' tab, initial screen

Depending on your answer, the ICU DCS will display between 1 and 4 organism fields (Figure 6).

Figure 6. 'Organism Details'

For details on how to complete these fields, please refer to the surveillance protocol.

Once you have completed the data entry for this tab, click on the 'Save' button. The ICU DCS will immediately run some data validation.

If the data validation is successful, the record will be saved. A DCS ID will be generated, you will get a confirmation message, and icons will appear next to each tab, with tick marks ✅ indicating completed sections and alert triangles ⚠️ indicating sections not completed yet (Figure 7). We recommend you keep note of the DCS ID in case you need to quickly find the record.

You can now move to the next tabs.

Figure 7. Episode saved successfully
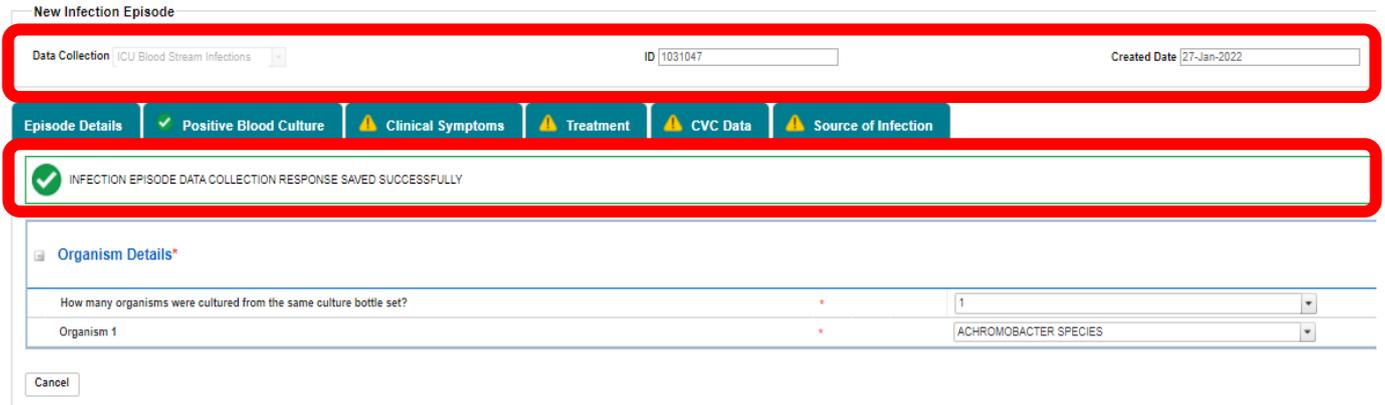
Potential duplicates

However, if the ICU DCS recognises that the record just entered is potentially a duplicate, the record will not be automatically saved. Instead, the system will warn you of the possible duplicate (Figure 8). This also provides details of the case(s) that already exist in the system which may be a duplicate for the case you are currently entering. These data have been provided so that you can ascertain whether you are actually entering a duplicate, or entering a different, albeit similar, event. Please check this information before deciding whether to continue saving the positive blood culture form or cancel the data entry.

Figure 8. Warning about a potential duplicate.
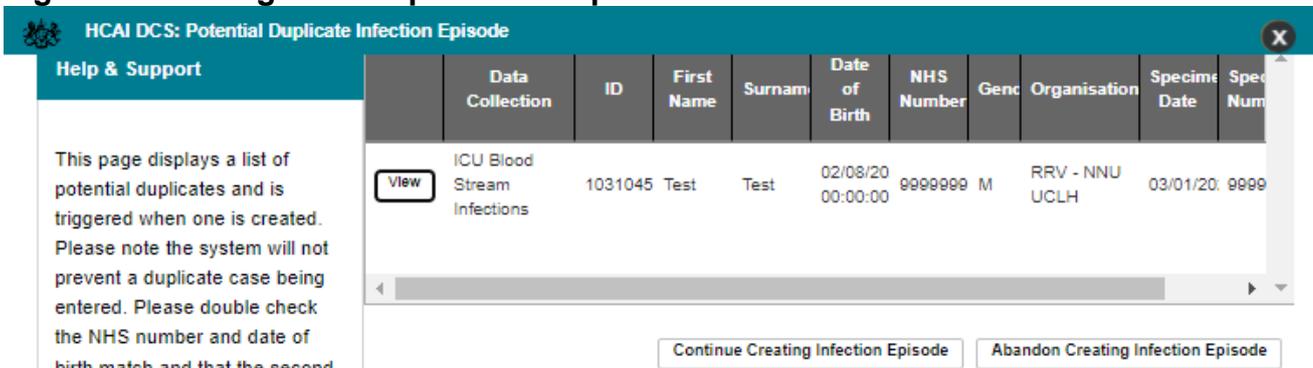
The ICU DCS identifies a potential duplicate if this event has identical data in a selection of the following fields as already existing BSI entry:

- NHS number
- Date of birth
- First name
- Surname
- A matching recorded organism from 'Organism 1-4'*
- In the same ICU
- AND
- A specimen date within ±7 days of the previously recorded BSI (up to 7 days prior and up to 7 days after a previously recorded BSI)

* The warning message will pick up any record with at least one organism that matches to a pre-existing record; however, for the new case to be considered a duplicate, ALL organisms in both records should be identical for you to not add the new case. Some examples are provided in Table 1, where each couple of potential duplicates has the same patient identifiers, ICU and specimen date.

Table 1. Examples of duplicate and non-duplicate records

Patient	ID	Organism 1	Organism 2	Organism 3	Organism 4	True duplicate?
QW	101	*S. aureus*	-	-	-	
QW	102	*S. aureus*	-	-	-	Duplicate of ID 101
ER	203	*S. aureus*	*E. coli*	-	-	
ER	204	*S. aureus*	*E. coli*	-	-	Duplicate of ID 203
TY	305	*S. aureus*	*E. coli*	-	-	
TY	306	*E. coli*	*S. aureus*	-	-	Duplicate of ID 305
UI	407	*S. aureus*	*E. coli*	-	-	
UI	408	*E. coli*	-	-	-	Not a duplicate of ID 407
OP	509	*S. aureus*	-	-	-	
OP	510	*E. coli*	*S. aureus*	-	-	Not a duplicate of ID 509
AS	611	*S. aureus*	*E. coli*	-	-	
AS	612	*S. aureus*	*E. coli*	*S. epidermidis*	-	Not a duplicate of ID 611

'Clinical Symptoms' tab

This tab captures age-specific information on the clinical status at the time of specimen collection (Figure 9).

Figure 9. 'Clinical Symptoms' tab, initial screen

More fields will appear depending on your answers. Please see the surveillance protocol for details on each field.

If the unit age type selected mismatches with the age of the patient at the time the specimen was collected, a warning will appear. This is to help you make sure that you have provided the correct answers to the date of birth, specimen date and unit type questions. If you are content that your answers are correct, you can ignore the warning; otherwise, please amend the incorrect answers.

Once you have completed this tab, please click on the 'Save' button.

'Repeat Positive Blood Culture' tab

This tab will only appear if one or more skin commensals are listed in the Organism fields in the 'Positive Blood Culture' tab. It captures information on whether the skin commensal was cultured in a repeat culture.

For example, if STAPHYLOCOCCUS HAEMOLYTICUS was entered in the 'Positive Blood Culture' tab, the tab in Figure 10 will become available.

Figure 10. 'Repeat Positive Blood Culture' tab with *S. haemolyticus*

Please note: only skin commensals originally reported in the initial blood culture will be displayed. If in the repeat blood culture any other organisms were identified, please enter these in a new infection record.

Please see the surveillance protocol for details on each field.

Select 'Save' when complete.

'Treatment' tab

This tab captures data on whether antimicrobial therapy was required at any time to treat the positive blood culture.

Figure 11. 'Treatment' tab

Please see the surveillance protocol for more details on the field.

Click 'Save' to complete this section.

'CVC Data' tab

This tab captures information about central vascular catheters (CVC) (Figure 12).

Figure 12. 'CVC Data' tab, initial screen

For the definition of CVC used in this surveillance programme and information on each field, please refer to the surveillance protocol.

Click 'Save' once the section is complete.

'Source of infection' tab

This tab (Figure 13) captures information on whether this bloodstream infection was secondary to infection at another site, excluding a CVC.

Figure 13. 'Source of Infection' tab, initial screen

Click 'Save' once section is complete.

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