



Public Health
England

Protecting and improving the nation's health

HCAI Data Capture System

Case Capture: Main Data Collections

User Manual

Version 1.0

DRAFT FOR TRAINING PURPOSES ONLY

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. It does this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. PHE is an operationally autonomous executive agency of the Department of Health.

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Case Capture

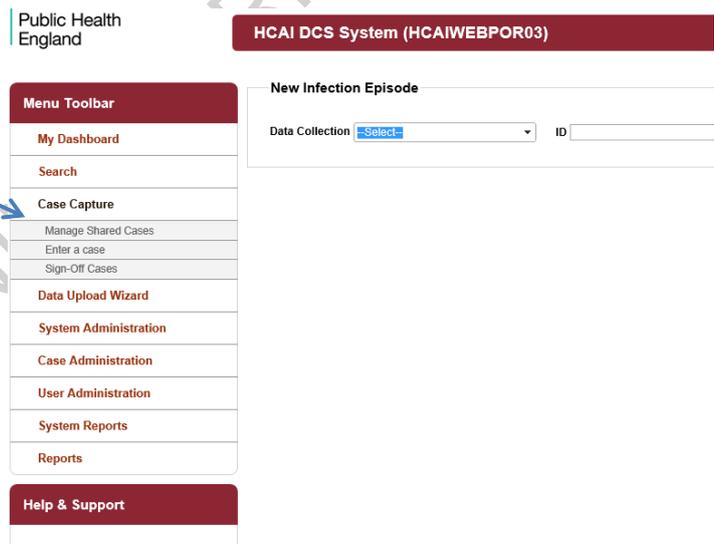
1. Introduction

This User Manual describes the process of entering a case (infection episode) of MRSA, MSSA, of *Escherichia coli* bacteraemia or *Clostridium difficile* infection. Please refer to the specific Quarterly Mandatory Laboratory Return (QMLR) User Guide for information on how to enter QMLRs. Additional detail on each of the data items collected and their rationale for collection is provided in the Data Dictionary User Manual.

A case may be entered onto the HCAI data capture system via two routes:

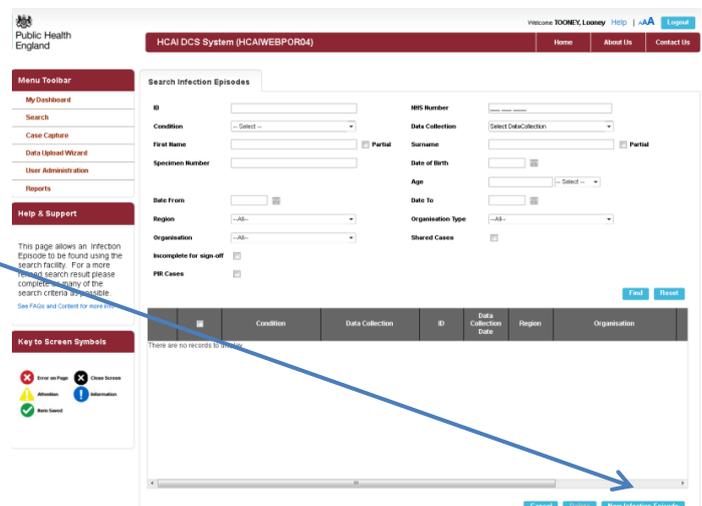
1) Case Capture

By selecting “Enter a case” from Case Capture option in the Menu Toolbar on the left hand menu.



2) Search

By selecting “Search” from the left hand menu, and “New Infection Episode” from the bottom right of the “Search” screen.



2. Entering a case

The process of entering a new case is the same whether you have navigated to it via the “Case Capture” or “Search” Menu Items. The process is described below in more detail. Click on “Enter a Case” or “New infection episode” to initiate the following screen. The “Data Collection” field needs to be selected before any of the data collection fields are displayed.

Figure 1. The top banner of the Case Capture screen

Table 1. Overview of fields in the top banner of the Case Capture screen

Field	Description
Data Collection	<p>Select the appropriate organism from the drop down.</p> <p>This field informs users which organism the case is being entered for, this may be amended during initial data entry up until the case is saved and assigned an ID number, however any entered data will be lost.</p> <p>It is not possible to change the “Data Collection” selection of a case that has already been entered and assigned an ID number. The case would need to be deleted and re-entered selecting the</p>

	correct data collection
ID	This is a unique 6 digit ID number, which is automatically assigned (by the DCS) to a case, once the case is saved. This ID can be used in communication with PHE about any case entered on the system.
Created Date	Once the case has been entered and saved, this field is auto completed with the date on which the case was saved, showing users the date the case was created.

Data Collections

The four “Data Collections” covered in this guide are:

- *C.difficile*
- *E. coli*
- MRSA
- MSSA

The main Data Collection Tab is the “Episode Details” page which is the same across all Data Collections; there are also Data Collection specific tabs (Table 2).

Table 2. List of Data Collection Tabs expected for each Data Collection

Data Collection	Data Collection Tabs
<i>C.difficile</i>	Episode Details Risk Factors Healthcare Interactions Inpatient Details
<i>E.coli</i>	Episode Details Risk Factors
MRSA	Episode Details Source of Bacteraemia & Associated Infections Risk Factors & Treatment Healthcare Interactions
MSSA	Episode Details Source of Bacteraemia & Associated Infections Risk Factors & Treatment Healthcare Interactions

3. Episode Details Tab

Once a “Data Collection” has been selected the “Episode Details” screen will be presented (Figure 2).

Figure 2. The Episode Details tab

The screenshot displays the 'Episode Details' tab within a web application. On the left is a sidebar with navigation links: Case Capture, Data Upload Wizard, User Administration, Reports, and Help & Support. The main area has a top navigation bar with 'Episode Details', 'Risk Factors', 'Healthcare Interactions', and 'Inpatient Details'. Below this is an information message: 'Mandatory fields are marked with red asterisk (*) Mandatory for Sign Off fields are marked with red hash (#)'. The form is divided into sections:

- Organisation Details**: Reporting Organization (dropdown, value: BARTS HEALTH NHS TRUST).
- Specimen Details**: Specimen Date (calendar, value: 23/03/2015), Type of Specimen Date (radio buttons: Date Specimen Taken, Date Received in Lab), Specimen No (text), Laboratory where specimen processed (dropdown).
- Patient Details**: NHS Number (text), Forename (text), Surname (text), Date of Birth (calendar), Sex (radio buttons: Male, Female, Unknown), Hospital Number (text), Episode Category (dropdown).
- Admission Details**: Patient Location (dropdown), Provenance (dropdown).
- Treatment Details**: Admitted any time during this episode (dropdown), On Dialysis (dropdown, marked with #).
- Additional Comments**: (text area).

 A legend on the left side of the sidebar defines symbols: a red 'x' for 'Error on Page', a grey 'x' for 'Close Screen', a yellow triangle for 'Attention', a blue exclamation mark for 'Information', and a green checkmark for 'Item Saved'.

Messages displayed under the Tabs will either be information messages or error messages (Figure 3). The initial message displayed when a “Data Collection” is selected, is an Information message indicating which fields need to be completed to allow a case to be saved and signed off (Table 3). Each of the “Episode Details” Tab contains fields with super scripts, * or/ & # beside them.

Figure 3. The information and error messages bar



Table 3. Super Scripts for mandatory fields

Superscript	Comment
*	Mandatory fields need to be completed in order for a case to be saved
#	Mandatory fields that need to be completed in order for the case to be signed off. A case may be saved without this information being entered, but it cannot be signed off with this information missing.

Throughout the “Episode Details” tab and the “Data Collection” specific tabs many fields are triggered (become visible on screen) based on responses to previous questions. Thus depending on the information entered you may see different fields on the “Data Collection” tabs. Where “Other” is selected from a drop down list a free text box allowing the “other” information to be entered will be triggered.

Each field in the “Episode Details” Tab and “Data Collection” specific tabs are detailed below. Triggered questions, except “other” are indicated.

Table 4. Overview of “Episode Detail” Tab Fields

Field Name	Comment
Organisational Details	
Reporting Organisation	The name of the acute Trust or IS Provider entering the case details. This will be autocompleted by the system, unless you have permissions to enter data for more than one site, in which case you will need to select the relevant site from the drop down.
Specimen Details	
Specimen Date	Date when specimen was taken. If this is not known the date the specimen was received in the laboratory should be used instead. (E.g. for a GP sample, the date the specimen was taken may not be available). An error message will occur if this date is earlier than the “Date of Birth” or “Admission Date”.
Type of Specimen Date	Depending on where the specimen was obtained, users are able to identify whether the “Specimen Date” is when the specimen was actually taken or when the specimen was received (e.g. GP sample, the date the specimen was taken may not be available).
Specimen No	The specimen number of the sample.
Laboratory where specimen processed	Laboratory where the specimen was processed can be from the options in the drop down list.
Patient Details	

NHS number	<p>A unique number assigned to individuals registered with the NHS. If the NHS number is not known, all 9's can be entered; however the NHS number should be completed as soon as it is known.</p> <p>Please Note: The only instance where this can be kept as 9's is where the patient is a non-UK national and does not have an NHS number (e.g. a patient from overseas). A correct NHS number is vital for increasing the chances of an accurate attribution to CCG.</p>
Forename	<p>The patient's first name. Only the initial is displayed when a user who is not authorised to view the Patient Identifiable Information (PII) views the case.</p>
Surname	<p>The patient's surname. This is used to create a "Soundex" code which is displayed when a user who is not authorised to view the PII views the case.</p>
Date of Birth	<p>Patient's date of birth (DoB). An error message will occur if the DoB is invalid (e.g. in the future or if it is after the Specimen or Admission Date). An accurate DoB is essential for increasing the chances of an accurate attribution to CCG.</p> <p>Please note: Potential duplicate cases will be identified by the system if certain key fields being entered match an existing record; please refer to the Duplicates on Case Capture section below and Figure 4.</p>
Sex	<p>Patient's gender.</p>
Hospital Number	<p>The patient's local hospital identifier. This</p>

	<p>may be determined by checking the patient's hospital documentation.</p> <p>Useful for identifying duplicate entries for the same person.</p>
Episode Category	<p>This allows users to indicate whether this record applies to a new infectious episode, a continuing infection or whether the patient has suffered a repeat infection or a relapse.</p>

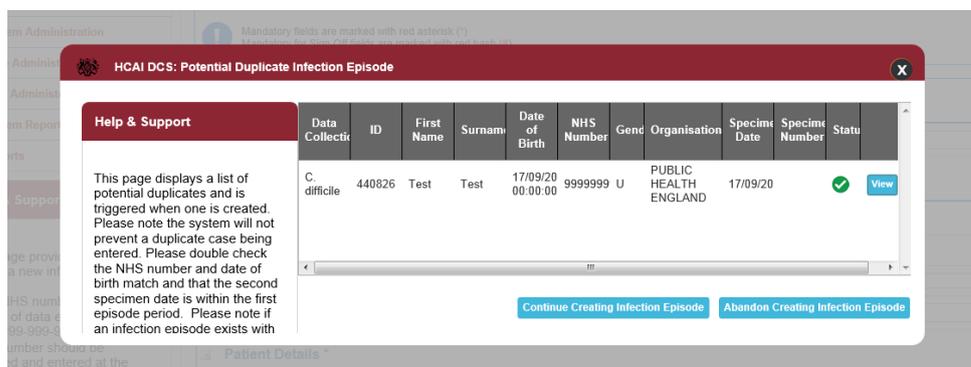
Duplicates on case capture

The definition of a duplicate for MRSA, MSSA and *E. coli* bacteraemia is any specimen collection from the same patient within 14 days. For *C. difficile* infection a duplicate is any specimen collected from the same patient within 28 days. Any positive specimens collected after 14 days (MRSA, MSSA and *E. coli* bacteraemia) or 28 days (*C. difficile* infection) are considered to be a new episode and must be entered onto the HCAI DCS.

Whilst entering patient details the HCAI DCS will identify whether a patient's details have previously been entered onto the system based on: the Data Collection; patient's surname; date of birth; and specimen date (which includes a window based on the organism-specific episode length). Existing records that fulfil the criteria for being a duplicate will be show in a popup, along with the case currently being entered (Figure 4). You will have the option to either abandon creating the infection episode, or continue entering the infection episode.

Please Note: It is necessary for organisations entering data to ensure that duplicates, as defined above, are not entered or retained on the HCAI DCS.

Figure 4. The Potential Duplicate Infection Episode popup window



“Admission Details” section

This collects information about the patient’s admission and location prior to attendance at the healthcare facility. It is important that any data in this section relates to the time at which the specimen was collected. It should not be amended to reflect any subsequent changes.

Table 5. Overview of the “Admissions Details” section

Field Name	Comment
Admission Details	
Patient Location	The actual location of the patient when the specimen was taken.
Trust/ Provider (triggered field)	This field is only made available if NHS acute Trust, Non-acute NHS provider, Independent Sector Provider or Mental Health Provider is selected.
Hospital Site (triggered field)	This field is only made available if NHS acute Trust, Non-acute NHS provider, Independent Sector Provider or Mental Health Provider is selected in the Patient Location field. It is the specific hospital/site within which the patient was located.

Patient Category (triggered field)	<p>This field is only made available if a provider organisation is selected i.e. NHS acute Trust, Non-acute NHS provider, Independent Sector Provider or Mental Health Provider.</p> <p>This field categorises the patient at the time the specimen was taken into one of the groups shown in the dropdown menu. Any subsequent location of the patient after the sample was taken is not relevant here (for example, if the patient was admitted after having a sample taken in A&E, the patient category is still “A&E only”).</p>
Do you know the admission date (triggered field)	This field is triggered when “Patient Category” “In-patient”, “Day-patient”, “Emergency Assessment”, “Other”, or “Unknown” is selected.
Date Admitted (triggered field)	Selecting “Yes” for the above field triggers the “Admission Date” field.
Admission Method (triggered field)	This field is triggered when “Patient Category” “In-patient”, “Day-patient”, “Emergency Assessment”, “Other”, or “Unknown” is selected. This field is used to determine the admission method of the patient.
Provenance	The location of the patient prior to arriving at the healthcare facility.
Trust/Provider Admitted From (triggered field)	This field is enabled when “Hospital (UK or abroad)”, “Non-acute NHS Provider”, “Independent Sector Provider” or “Mental Health Provider” are selected as the Provenance.
Hospital Site Admitted From (triggered field)	This field is enabled when a “Trust / Provider Admitted From” is selected. It is the specific hospital/site within which the patient was

	located.
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Treatment Details section

This section captures further information on the patient's treatment.

Table 6. Overview of the Treatment Details section

Field Name	Comment
Treatment Details	
Admitted any time during this episode	This field captures whether the patient was admitted at any point during the episode. This differs from the "Date Admitted" field in "Admission Details" section which captures admission information about the patient at the time of specimen collection.
On Dialysis	This captures whether the patient is receiving dialysis. If "Yes: Established RF" is selected the record should be shared with the renal unit providing the renal care. Please refer to the Sharing User Manual for more information.
Main Speciality (triggered field)	This field is enabled when "NHS acute Trust", "Non-acute NHS provider", "Independent Sector Provider" or "Mental Health Provider" is selected as the "Patient Location". This refers to the speciality of the consultant the patient was under at the time the specimen was collected.
Treatment Speciality (triggered field)	This field is enabled when "NHS acute Trust", "Non-acute NHS provider",

	<p>“Independent Sector Provider” or “Mental Health Provider” is selected as the “Patient Location”. This refers to the specialty of the consultant the patient was under at the time the specimen was collected.</p>
Augmented Care (triggered field)	<p>This field is enabled when “NHS acute Trust”, “Non-acute NHS provider”, “Independent Sector Provider” or “Mental Health Provider” is selected as the “Patient Location”. This refers to the specialty of the consultant the patient was under at the time the specimen was collected.</p>
Additional Comments	<p>This is a free-text field for any general comments users wish to record. Please ensure any comments are entered using standard characters on the keyboard.</p>

Save and Cancel Options

When a new case has been entered or an existing case altered, the save button at the bottom of the page will be enabled. Once either “Cancel” or “Save” buttons are pressed a dialogue box will pop up. Any missing fields or validation errors will be highlighted upon save in the information and error messages bar (Figure 3).

4. Clostridium difficile infection additional tabs

Risk Factors Tab

The "Risk Factor" tab is only enabled once the main data entry section has been successfully saved. This screen collects important additional information related to how the infection may have been acquired.

Figure 5. The Risk Factors tab

Episode Details | **Risk Factors** | **Healthcare Interactions** | **Inpatient Details**

! Mandatory fields are marked with red asterisk(*)
Mandatory for Sign Off fields are marked with red hash(#)

Onset of Diarrhoea (this episode)

Best estimate of date of onset of diarrhoea: 24/02/2015

Antimicrobial Usage*

Was patient on antimicrobials when specimen was taken? Yes

Select antimicrobials when specimen was taken: * Enfuvirtide (T-20)

Was patient on any other antimicrobials in the preceding 7 days? Yes

Select antimicrobials in the preceding 7 days: * Fluconazole

Reference Laboratory Result*

Was the specimen sent for typing? Yes

Date sent: * 05/02/2015

Specimen Category: * Outbreak/Cluster

Save | Manage Share | Cancel

Table 7. Overview of the Risk Factors Tab fields

Field Name	Comment
Onset of Diarrhoea (this episode)	
Best estimate of the date of onset of diarrhoea	Enter the “Best estimate of the date of onset of diarrhoea” associated with the current <i>Clostridium difficile</i> infection episode. The date can be chosen using the Date Selector.
Antimicrobial usage	
Was patient on antimicrobial use at the time when the specimen was taken?”	If “Yes” is selected the following question is enabled
Select antimicrobials when specimen was taken (triggered field)	Select all the relevant antimicrobials from the drop down list
Was patient on another antimicrobials in the preceding 7 days	If “Yes” is selected the following question is enabled
Select antimicrobials in the preceding 7 days (triggered field)	Select all the relevant antimicrobials from the drop down
Reference Laboratory Result	
Was the specimen sent for typing?	Only if Yes is selected are the following questions enabled
Date sent	The date the specimen was sent
Specimen category	The specimen category

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Healthcare Interactions Tab

This section deals with any contact the patient may have had with the present Trust or another Trust in the 12 weeks prior to the specimen date.

Figure 6. The Healthcare Interaction Tab

The screenshot shows a software interface with four tabs: 'Episode Details', 'Risk Factors', 'Healthcare Interactions' (selected), and 'Inpatient Details'. Below the tabs is a notification box with an exclamation mark icon and text: 'Mandatory fields are marked with red asterisk(*)' and 'Mandatory for Sign Off fields are marked with red hash(#)'. The main form area is titled 'Healthcare Interactions in 12 Weeks Prior to Specimen'. It contains four rows of questions, each with a dropdown menu:

- Question 1: 'In the 12 weeks prior to specimen date, did the patient attend your Trust/ISH?' with 'Yes' selected.
- Question 2: 'In the 12 weeks prior to specimen date, did the patient attend a different acute Trust/ISH?' with 'Yes' selected.
- Question 3: 'Other acute Trust/Independent Sector Healthcare provider' with 'WALSALL HEALTHCARE NHS TRUST' selected.
- Question 4: 'Other' with an empty dropdown menu.

At the bottom right of the form are three buttons: 'Save', 'Manage Share', and 'Cancel'.

Table 8. Overview of the Healthcare Interactions in the 12 Weeks Prior to Specimen Tab fields

Field Name	Comment
Healthcare Interactions in the 12 Weeks Prior to Specimen	
In the 12 weeks prior to specimen date, did the patient attend your Trust/ISH	Select an option from the drop down list available
In the 12 weeks prior to specimen date, did the patient attend a different acute Trust/ISH	Select an option from the drop down list available
Other acute Trust/Independent Sector Healthcare Provider (triggered question)	This field is triggered if “Yes” is selected in response to the previous question. Select an option from the drop down list

The Inpatient details Tab

This tab should only be completed for Inpatients only

Figure 7. The Inpatient Details tab

Table 9. Overview of Inpatient Details Tab fields

Field name	Comment
Inpatient details tab	
For inpatients only, do you have further information about where the patient acquired their infection?	Only if “Yes” is selected will further questions be available
What specialty was the infection thought to have been acquired in (Augmented care)	Select from the drop down list. This is different from the information entered on the “Episode Details” tab as it relates to the specialty where the infection was thought to have been acquired.
What specialty was the infection thought to have been acquired in (Treatment Specialty) (triggered question)	If “Not applicable” is selected for field “Treatment Specialty” becomes available. This is different from the information entered on the “Episode Details” tab as it relates to the specialty where the infection was thought to have been acquired.

Date From/Date To	The dates that the patient was in the specialty for.
If applicable did the care within this particular treatment specialty end in discharge or death	Select either "Discharge" or "Death"
Date of Discharge/Death	Enter the date or use the Data selector
Ward Type	The ward type the patient was in
Total number of beds (triggered field)	This is enabled if "Nightingale" or "Other" is selected as the ward type.

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5. MRSA and MSSA additional tabs

Source of Bacteraemia & Associated Infections

This section is used to record what was considered to be the cause of bacteraemia following a root cause analysis (RCA). The information entered here may differ from that on the “Episode Details” tab. For example the “Treatment Specialty” and “Augmented Care” information entered here should reflect the outcome of the RCA.

Figure 8. The Source of Bacteraemia and Associated Infections tab

Episode Details | **Source of Bacteraemia & Associated Infections** | Risk Factors & Treatment | Healthcare Interactions

! Mandatory fields are marked with red asterisk(*)
Mandatory for Sign Off fields are marked with red hash(#)

Source of bacteraemia*

Do you know of source of the bacteraemia? Yes

Source of bacteraemia * Dialysis line

Certainty * Highly likely

Associated Clinical Infections*

Associated Clinical Infection Meningitis

Certainty * Highly likely

Inpatient Details*

For inpatients, what specialty was the infection thought to have been acquired in (Augmented Care)? Renal Unit

Save | Manage Share | Cancel

Table 10. Overview of the Source of Bacteraemia and Associated Infections Tab fields

Field name	Comment
Source of bacteraemia	
Do you know the source of bacteraemia?	Only if “Yes” is selected will further questions be available
Source of bacteraemia	Select from the drop down list. Only one option can be selected.
Certainty	Select the certainty with which the selected

	source explains the cause of the bacteraemia
Associated clinical infections	
Associated clinical infection	Only if an option is selected will further questions become available. Only one option can be selected.
Certainty	Select the certainty
Inpatient details	
For inpatients, what specialty was the infection thought to have been acquired in (Augmented Care)?	If “Not applicable” is selected the field “Treatment Specialty” becomes available. This is different from the information entered on the “Episode Details” tab as it relates to the specialty where the infection was thought to have been acquired.
Treatment specialty (triggered question)	This is different from the information entered on the “Episode Details” tab as it relates to the specialty where the infection was thought to have been acquired. Not applicable can be selected.
Date From/Date To	The dates from and to that the patient was in the treatment specialty.

Risk Factors & Treatment Tab

Figure 9. The Risk Factors and Treatment Tab

Table 11. Overview of the Risk Factors and Treatment Tab fields

Field name	Comment
Pre-disposing factors	
Were there any pre-disposing risk factors for the bacteraemia?	Only if “Yes” is selected is it possible to select a pre-disposing factor
List of pre-disposing factors	As many pre-disposing factors as applicable can be selected
Prior S. aureus History	
Prior S. aureus history	If any option except “None”, “Unknown” and “Other” is selected
When	Select the timescale
Treatment of bacteraemia	

Treatment of bacteraemia	Select as many options as appropriate from the drop down list
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Healthcare Interactions Tab

Table 12. Overview of the Healthcare Interactions Tab fields

Field name	Comment
Healthcare interactions tab	
Do you want to add a healthcare interaction	Only if “Yes” is answered will further questions be enabled
When	Select the timescale within which the interaction occurred
Type of interaction	Select the type of interaction
Where	Select where the interaction occurred
NHS acute Trust organisation	If “NHS acute Trust” is selected from “Where” the name of the organisation must be selected from the drop down list which is enabled
Independent Sector Provider Organisation	If “Independent Sector Provider” is selected from “Where” the name of the organisation must be selected from the drop down list which is enabled
Date from/Date to	The dates from and to that the interaction occurred
Reason for interaction	Select the reason for interaction
Admission method	Select the admission method
Do you want to add another interaction?	If yes is selected another “Healthcare Interactions” tab is triggered with the same questions asked for the additional healthcare interaction. Up to 45 individual healthcare interactions can be added.

6. *E. coli* additional tabs

Risk Factors

This section collects important additional information related to how the *E. coli* may have been acquired.

Figure 10. The Risk Factors Tab

The screenshot shows the 'Risk Factors' tab within the 'Episode Details' section. At the top, there is a legend: 'Mandatory fields are marked with red asterisk(*)' and 'Mandatory for Sign Off fields are marked with red hash(#)'. Below this, the 'Risk Factors*' section contains three dropdown menus: 'Do you know of a primary focus of the bacteraemia', 'Factors directly predisposing to this episode', and 'Is this episode likely to be an HCAI?'. Each dropdown menu currently shows '-- Select --'. At the bottom right of the form, there are 'Save' and 'Cancel' buttons.

Table 13. Overview of the Risk Factors Tab fields

Field name	Comment
Risk factors tab	
Do you know of a primary focus of the bacteraemia?	Select an option from the drop down
Most likely primary focus	A focus only needs to be entered if “Yes” is selected to the above question
Factors directly predisposing to this episode	Select an option from the drop down
List of predisposing factors	The list is only enabled if “Yes” is selected to the previous question. Generally one factor should be selected, but it may be applicable to select more than one.

Is this episode likely to be an HCAI?	Select an option from the drop down
Where was the infection likely to have been acquired	This is enabled if “Likely” or “Possible” is selected in answer to the question “Is this episode likely to be an HCAI?”

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